S. Hrg. 99-1088

DEMOGRAPHIC CHANGES IN THE UNITED STATES: THE ECONOMIC AND SOCIAL CONSEQUENCES INTO THE 21ST CENTURY

HEARINGS

BEFORE THE

SUBCOMMITTEE ON
ECONOMIC RESOURCES, COMPETITIVENESS,
AND SECURITY ECONOMICS

OF THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

NINETY-NINTH CONGRESS

SECOND SESSION

JULY 25, 29, AND 31, 1986

Printed for the use of the Joint Economic Committee

U.S. GOVERNMENT PRINTING OFFICE
72-180 WASHINGTON : 1987

For sale by the Superintendent of Documents, Congressional Sales Office
U.S. Government Printing Office, Washington, DC 20402

J841-25

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DEMOGRAPHIC CHANGES IN THE UNITED STATES: THE ECONOMIC AND SOCIAL CONSEQUENCES INTO THE 21ST CENTURY

FRIDAY, JULY 25, 1986

Congress of the United States, Subcommittee on Economic Resources, Competitiveness, and Security Economics of the Joint Economic Committee,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:35 a.m., in room 2359, Rayburn House Office Building, Hon. James H. Scheuer (member of the subcommittee) presiding.

Present: Representative Scheuer.

Also present: William R. Buechner, professional staff member.

OPENING STATEMENT OF REPRESENTATIVE SCHEUER, PRESIDING

Representative Scheuer. The Joint Economic Committee's Subcommittee on Economic Resources, Competitiveness, and Security Economics is beginning a series of hearings spread over 3 days on the extraordinary changes that are occurring and will continue to occur in the population of the United States, changes that will affect every aspect of American society—our economics, our politics, the social fabric of our country, our labor unions, our retirement programs, our health, education, welfare, and other programs. No American will remain untouched and unaffected.

During these hearings we plan to raise and we hope to answer several very important questions. Among others, what historic population changes are occurring now in our country? What are the consequences of these changes for the American education system, for our labor market, for our housing system, particularly as it affects senior citizens, for our health care system, for our retirement and social security system, for the Federal budget?

And perhaps more important, as a nation, are we prepared for these changes and how should we prepare?

Right now we are experiencing some of the most profound population changes in our Nation's history. Now, the vast majority of Americans aren't aware of these changes and in fact the vast majority of Congressmen aren't aware of these changes because to many, to most perhaps, they are dull, dry statistics hidden away in the official population projections of the Bureau of the Census and Library of Congress studies. They are not the grist of vacation reading.

But let me extract from some of them some of the fascinating changes that are occurring today that take on a life and a meaning and a significance on their own without any elaboration from me or anybody else. They are very dramatic.

First, our population is aging rapidly. We are no longer a nation of young people. As recently as 1980, half of the people in this country were under the age of 30. By the year 2000 that midpoint will go up to 34 and by the year 2010 that midpoint will be 40, up from 30 just 6 years ago. Imagine that, a 10-year increase in the average age by the year 2010. Somebody 39 years old will be able to call themselves young. Of course, to me somebody 39 years old is very young now.

A question we have to face is, how will this aging process affect American life, our economy, our culture, and all of the systems for education, housing, health, welfare, retirement, and labor market that I mentioned before?

Second, there will be a massive increase in the number of people in our country who are living beyond the age of 65. Now there's been a tremendous change in what it means to be over 65. When the social security retirement system was formed in the middle 1930's, when you hit 65 you expected to have a couple of years on the bench, rocking in your rocking chair with a shawl around your shoulders, and that was it.

Today, you can expect decades of life after 65 and not only decades of life but active, vigorous, participating life after 65. What does that mean for our country?

Well, one thing is that the elderly folks of our country outwitted the actuaries and the demographic statisticians of a half century ago who based actuarial tables for our social security retirement system on a prediction of a very few years of life expectancy after 65, and the fact that people are living decades longer now means that the social security system would have been absolutely bankrupt if we hadn't done some tinkering with it in the last couple of years to reflect this astonishing increase in longevity.

Today, there are about 20 million golden-agers, over the age of 65, one out of every eight Americans. Twenty-five years from now, that number will go from 28 million to 64 million, one out of every five Americans. And, of course, this will have a continuing impact on our social security system, our retirement system, and it will mean a change in life style, a change in housing needs, for example.

Then we have an absolutely spectacular, almost unbelievable increase in our population of old-old people, those over 85. Today, there are about 2.5 million people in our country over the age of 85, about 1 percent of our population of 244-odd million, roughly one in a hundred Americans.

By the year 2000, this number will grow from 2.5 million to 5 million; and by the middle of the next century, it will be up to 20 million, or 1 in every 16 Americans—up from one in a hundred Americans, roughly a 6 or 7 times increase in the number of Americans living over 85.

Now whereas the 65- to 85-year-old age group is due to spectacular advances in health care, diet, exercise, avoidance of tobacco, alcohol, drugs—a whole improvement in our life style—that 20 years is a very active, healthy 20 years with not too much in the way of demands on the health system. The years after 85 begin to be very expensive years from the point of view of the health care system.

So we have to be thinking well in advance of the avalanche of costs and the avalanche of services that will be necessary if we are to make the benefits of high technology, of advances in medical technology, available to the over-65 group.

Next, of course, as the average age of the population grows and the over-65 group grows rapidly and the over-85 group grows exponentially, we will see a comparative dwindling of the youth of our country, the young people.

By the year 2000, there will be 6 million fewer people in the 18 to 24 group than there were in 1982. The same thing will happen only a few years later in the 24 to 35 group. They will peak in 1990 at 43 million, and by the year 2000 they will be down by 7 million, to 36 million, a substantial decrease in their numbers. And, of course, this will have a substantial impact on education, on our industry, the availability of labor, the vitality and the workability and the effectiveness of the labor market, especially labor markets that rely on entry level use of inexpensive labor.

The impending changes in the education system and the labor market are already beginning and many industries are going to have to change substantially in order to survive to accommodate to these trends.

Perhaps last, we're going to see a major change in the racial composition of our country and I take a value-free approach to this. Certainly in the past we have been a heterogeneous, pluralistic society and this has been part of our strength, part of our vitality, part of the glorious mix of our country that has made us such a rich, diverse country. The percentage of Americans who are black or other minorities will grow through the 21st century rising from about 14 percent now or in 1980 to about 17 percent by the year 2000 and 23 percent by midcentury.

Not long after the turn of the century, the four largest States will be California, Texas, Florida, and New York, in that order—and I say that with some sorrow because these decennial reapportionments that flow from the cruel inexorable results impact on New York and on me.

So our Nation is going to have to summon to the depths of its intellectual and moral resources our strength of character to accommodate smoothly and positively to these changes in racial composition.

One of the most critical results and problems that flow from that is the fact that the minority groups as they grow as a percentage of our population do have an unequal burden of poverty, illiteracy, unemployment, and we're going to have to become far more creative in our efforts to prepare these young people for the labor market and to bring them into the mainstream, to end dependence and to enable them to make it on their own, to acquire reading, writing, language, and counting skills that the market will respect so that they can become independent functioning citizens in our society with the respect from others and, even more important, with the self-esteem that that brings.

Sixteen million new jobs will be created in the United States in the next 10 years, but three-quarters of them will require some post-secondary education. Now this is alarming when one considers the fact that there are more than a million high school dropouts each year, not all of them but many of them if not most of them from minority groups who add each year to the pool of the functionally illiterate in our country—approximately 23 million Americans who cannot read a job description sheet, who cannot read an instruction sheet, who cannot read the menu on the blackboard when they go into a cafeteria, who cannot read traffic signs, who are almost doomed to a life of frustration and comparative ineffectiveness in our society.

And this trend is going to continue because as our society becomes more and more automated, cybernated, computerized, and so forth, the low-end jobs in the spectrum, the nonskilled jobs, in our essentially service economy, are going to gradually disappear and their places will be taken, as I've indicated, by jobs that require not only a high school education but some post-secondary training as well. And we have got to apply ourselves as a matter of urgent national priority to solve this problem.

I can't think of anything that would be more tragic for our country than to have what is a positive aspect of our heterogeneity and our diversity—namely, the incredible variety of races and creeds and colors and national origins represented in the spectrum of our polity—than to have that become a source of not only the weakness of economic incapacity—how can we compete with the Germans, the Japanese, the Koreans, the Singapores, Hong-Kong, the Scandinavian countries when we have almost a fifth of our population who can't read, write, count, and whom we have to support in some way. We aren't going to let them starve in the streets.

And not only that, but as we see this larger and larger development of a subgroup in our society that is virtually left out of the full richness of the American quality of life, doesn't that presage bitterness and resentment and alienation and striking back and lashing out that promises to have tragic results in our country. We can already see signs of it—the alienation that comes from not being part of the mainstream, from being foreclosed from a positive place in our society and in our economy.

So terrible psychic scars lay ahead if we don't solve this terrible problem.

And I've only just alluded to a few of the challenges and the problems that are being presented to us policymakers on this side of the table and policymakers from the citizen leaders out there in the audience.

These demographic shifts will have profound effects, as I say, not only on the age and composition of our society, but on every one of our systems—of our industry, of our labor market, education, housing, health services, and other social services.

As the philosopher Santayana told us, "A failure to pay attention to these population trends that are clear today will condemn us to repeating the mistakes of the past," mistakes we made that if we had watched cohorts of infants being born we would have realized that 5 years hence we needed more elementary schools than we had, and 6 years after that more secondary schools and 4 years after that more universities, and so that whole cohort of the population explosion, as we call it, after World War II for 4 or 5 or 6 or 10 years went through crowded school systems. We woke up late. We started building schools but much too late. And at the time we were building schools, if we had looked at the cohort of kids born that year, we would have figured out very quickly that we had left the baby boom and we were entering the baby bust. So we were building elementary schools at a time when if we had looked at the birth statistics we would have found that there was a declining need for kids entering the school system 3, 4, 5 years from then. So we had then not only an over-construction of school facilities but an over-teaching of teachers, so that when these declining cohorts came and the baby bust followed the baby boom we had a whole generation of teachers that we had trained too late to be available when the baby boom was there and who now came on the market looking for jobs when the baby bust had hit us. So these teachers ended up, many of them talented people all the way from kindergarten to post-doctoral teaching candidates, driving taxicabs and doing other things just to survive, with all the frustration that that brought.

Well, here we are paying that price. We didn't anticipate the increase and the impact in violent crime, the crime statistics, resulting in a rise in 15 or 16 years after the start of the baby boom in the crime-prone years, from 15 to about 24. And we had too few judges, too few bailiffs, too few court clerks, and of course too few incarceration facilities. And we began to build them much too late.

I won't even talk about social security. We're all familiar with those problems. The problems of mass transit, we tore up our trolleys. The venerable Toonerville trolley that had served us so well, we tore it up and now we find that our mass transit system is absolutely overburdened and at the point of collapse and we're having to build inordinately expensive subway systems when those streetcars and the Toonerville trolley of days of yore would have served us very well.

Well, we're fortunate to have some extraordinarily gifted and talented witnesses here today who are not only population experts but also true visionaries of true insights, who can help us define the profound changes that will occur in our economy and our society as the population changes come to us.

Our opening witness today is our very thoughtful, creative Secretary of Labor, William Brock, who served us so well in some of the other high positions, most notably as our Trade Representative. I told him before the meeting I felt like the father who had decided he hadn't really lost a daughter he had gained a son-in-law. I was really terribly disappointed when we lost Bill Brock as Trade Representative because he had represented our country with such thoughtfulness, with such insight, with such clarity, with such elegance really, in putting it all together. And I felt that was a real loss to our country, but he is more than making up for it in the excellent and outstanding vision which he is bringing to his position as Secretary of Labor.

I have heard Secretary Brock speak about the problem of functional illiteracy in our country and I very much hope that he will give us the same thoughtful, articulate, enlightened exposition on that subject today that I have heard him give in the past.

Secretary Brock will be followed by Director of the Census, John Keane, whose testimony will expand on the population trends that I have mentioned briefly. Mr. Keane will be followed by a panel of our Nation's most highly respected demographers, Professor Norman Ryder, a member of the faculty at Princeton; Ms. Wendy Baldwin, Chief of the Demographic and Behavioral Sciences Branch, National Institute of Child Health and Human Development at NIH; and Mr. Harry Rosenberg, who is Chief of the Mortality Statistics Branch of the National Center for Health Statistics.

Finally, before we begin, I want to acknowledge and thank two people from the Population Reference Bureau who have given us marvelous support and advice and counsel along the way, Nancy McConnell and Lee Bouvier. Lee Bouvier himself used to have a very high position at the Bureau of the Census until he retired into an even more active and constructive role in our country.

And lastly, I want to congratulate the staff of the Joint Economic Committee for their superb efforts in putting this set of hearings together, especially Bill Buechner and the wonderful people who have worked with him.

So with those remarks, I take great pleasure in introducing Bill Brock, our distinguished Secretary of Labor, who has already left an indelible mark on American life through his service up to now.

Mr. Secretary, why don't you take perhaps 8 or 10 minutes to speak to us informally about all these problems and any other ones that you see, and then I'm sure I'll have a chance to ask you some questions.

STATEMENT OF HON. WILLIAM E. BROCK, SECRETARY OF LABOR

Secretary **Brock**. Thank you, Congressman. First, thank you for your more than gracious comments. I appreciate them very much. And if I may repay the compliment, you and I both know how difficult it is to get Members of Congress to think beyond a 2-year span because of the exigencies of public office and campaigning, and I really do want to express my gratitude to you personally for being willing to take a longer-term view. This country has to do better than it has, and it has to think about where we're going to be 5, 10, 15, 20, and 30 years from now. It may not be good politics, but it is the essence of good statesmanship.

Representative **Scheuer**. I think good statesmanship is always good politics and I think you think that too because that is what has exemplified your career in public life to date.

Secretary **Brock**. I'm going to come back more often, Congressman. I served on this committee, and I love it. I'm a great fan of the Joint Economic Committee, and it's a fun area because it is a committee that can look ahead and has the time to do so. We'll be talking to your former and present colleagues on these subjects for quite a while to come.

I should mention that next week we're going to be bringing to your committee the people who really know what they're talking about. Janet Norwood, who is Commissioner of the Bureau of

Labor Statistics, is one of the smartest and most able people in government. She will be here, and I think she will give you an enormous amount of information on the demographic trends underway.

Roger Semerad, who is also one of the brightest and most creative people I've ever met in government also will be testifying. He's doing some very exciting work.

Representative SCHEUER. I heard his speech in the documentary in which you also spoke so eloquently, and he was very, very good.

Secretary BROCK. We simply have to look ahead farther. The programs that we have in place today in the Federal Government address the problems we had in the 1950's and 1960's. If we're going to have any hope at all of dealing with some of the problems we'll be talking about in the next few minutes, we've got to start changing our policies now to have them in place. Government is not the fastest moving institution in the world, as you well know.

The demographic trends you mentioned are obvious. The growing number of older workers, the increasing number and percentage of women, the declining number of new entrants into the job market, those trends are going to affect policies in education, especially the literacy and training of our young people—and I'll come back to that—retraining programs for older workers, pensions of present and future workers, and programs designed to assist families and single, head of household, female workers. They will affect our industrial competitiveness. They will affect the trend toward mandated employee benefits and the need for retiree health care.

Let me just repeat a couple of the demographic facts. There is going to be a slower growth in the population and in the labor force with a growing number of women in the work force. Eighty percent of these working women are going to be pregnant at some point during their working career.

More than two-thirds of those who are going to be working in the year 2000 are already working now. They're in the work force. While the number of young workers will decline, the percentage of minority youth will substantially increase. Older workers who themselves have dependent parents are less likely to retire early, and perhaps are even less able to retire early. The average worker is likely to change jobs several times, and when I say that young people are going to change jobs at least four to six times during their natural lives, I'm not saying they're job-hopping. The job is going to change underneath their feet, and they've got to be given skills necessary to adjust to that fact.

While most of the new jobs in the future will be created by small business, these small businesses are less likely to provide traditional pension coverage. There's another trend and that is the enormous acceleration of the use of part-time workers, who may not have any fringe benefits, any pension coverage at all, and I think we'd better be concerned about what that pattern portends for the future of social security and our private retirement and benefits systems.

By the year 2030, there will be fewer than three workers per retiree. This compares with 5.4 active workers per retiree in 1980 and 9 workers per retiree in the 1930's. In other words, the base is changing fundamentally, and that has to affect our policies.

There are some good things about this. There is a good news side to the story, and I think we've got to keep that in mind. First, the slower growth in the labor force offers us greater opportunities to bring at-risk youth into the mainstream. When you've got 40.8 percent of our black teenagers unemployed that is a national tragedy, and we do have a window of opportunity over the next few years—and it's not long between now and say the mid-1993-95 period—to really deal with that problem.

Second, a tighter labor market should allow greater use of people who have not been given sufficient opportunity—women, handicapped, minorities—and that's positive.

The occupational gaps and the earnings gaps can be expected to narrow unless—as you said very clearly—we fail in our educational mission and in our mission to deal with the literacy problem. As I said, I'll come back to that.

A more mature work force, though, is fundamentally more stable, reliable, and productive. For example, our more experienced workers are obviously far less prone to on-the-job injuries.

So there are good sides to this story. But it also poses some real challenges for us. We're going to have to deal with solutions to the problems of youth unemployment, particularly among minorities. We're going to have to deal with the illiteracy among youth and adults which is becoming an epidemic. We're going to have to deal with worker dislocations. That's not just trade dislocations, Congressman, it's technology dislocations. The result of a changing economic mix and the need to adjust to that rapidly changing circumstance. We need to deal with dependent care for children and for elderly retired workers.

We need to have much better information about older individuals before and after retirement, their means, their living conditions, their problems. We've got to have a great deal of improvement in a more positive labor relations climate, labor-management relations, rather than the old confrontational approach. And as I said, training, retraining and more retraining are a life-long necessity, and we've got to do it in a realistic cost-effective way. The budget constraints we're living with today have already taught us how much work we have to do in that area.

It's necessary that we in government coordinate our efforts more effectively. Recently the Departments of Education and Health and Human Services both joined me in sponsoring a conference on "Youth 2000," to look ahead at these future needs. We are trying now to see if we can put our programs together in a more complementary fashion across jurisdictional lines. It's ridiculous to think that I can operate in isolation in the Department of Labor in the training area without being concerned with what's happening in education or in social services. They all fit together. And if I cannot develop a coordinated, comprehensive approach, I'm not giving the taxpayers their due, and I'm not serving my President or this Congress well.

Let me mention a couple of areas where we really desperately need action. We have simply got to do a better job in education, Congressman. There are some good things happening in the States but it is not enough.

You mentioned 23 million Americans who are functional illiterates. There are another 47 million Americans at the margin of functional illiteracy. That is 70 million Americans at risk in a changing and technologically oriented and information-based society.

Representative SCHEUER. That was 47 million?

Secretary BROCK. 47 million, in addition to the 23 million, who are just above that line. When you say 23 million Americans are functional illiterates you're saying they can't even read a "help wanted" sign. That's tragic, and it is unacceptable. It simply cannot continue, and it seems to me that it is urgently necessary that we set a goal to eradicate illiteracy by the year 2000. We can do that. There's no reason not to.

We also need to institute training programs to allow older workers to keep up with changing technologies and competition. I'll give you an example that really troubles me. LTV went into bankruptcy earlier this week. It's a fine company and has some remarkly talented, skilled, and able workers. Now I pray that this reorganization will allow them all to maintain their jobs, but the fact is that we're consuming half as much steel per capita in this country as we were in the 1950's. It isn't going to change. That number is going to continue to deteriorate. We're using industrial grade plastics. We're using ceramics. The new materials are replacing steel.

What do we do with that steelworker? It isn't just that he's got a human problem. He or she does. We've got a national problem because that's a skill this country can ill afford to lose in a highly competitive international environment, and I don't think we have effectively addressed that particular question.

We need to look at the whole myriad of laws governing our pension policies to encourage workers to stay in the work force because there will be fewer people entering the work force. Rather than using pensions to move workers out, we need to rethink ways to retain productive individuals.

There's something else happening. With women working, we've got more two-earner couples, which means there's greater opportunity for early retirement. That may be good for the couples, and a lot of them may take advantage of it. But our country's going to need their skills. We're going to be short of people if the job development pattern continues for the next 15 years as it did in the last 15.

We need to find ways to ensure that all Americans, young, middle-age, or older, have an adequate retirement income to supplement social security. That's income different from social security, in addition to it. I mentioned the problem of part-time workers and others who are putting pressure on the retirement system. With employee benefits becoming an increasingly important component of compensation, we need to encourage employers to design flexibile benefit packages because there is a difference between women who work and who have a problem with inadequate day care and elderly workers who may find themselves at the age of 50 or 55—I shouldn't use the term elderly when that's my age group—but they've got to have a different mix of opportunities afforded to them, and I think we tend to get a little too stagnant and noncreative in our benefit packaging.

We need to recognize that working women and single heads of households have entered the work force and are going to continue to do so. They may have special needs. Sixty percent of the new entrants in the work force in the 1990's are going to be women, 60 percent. We have to have some different approaches that address their special needs—flexible hours, part-time work, job sharing, child care, and special training. We're going to need these individuals in the labor force from now on, for the next several decades, and creative labor and management cooperation can help deal with their special needs.

We need to recognize their needs in small business, and big business, government, manufacturing, and services. In order to compete successfully with foreign firms, we need more emphasis on flexible work rules. We need to do something about, as I said, retiree health care. The list is almost endless, Congressman. You asked for a summary, and all I've given you is a very simplistic statement, but the plus side is that this changing demographic circumstance offers us an opportunity. If we seize it between now and the next 5, 6, or 7 years, we can put into place policies and programs that will allow this country to remain the most productive, competitive, exciting, challenging country in the history of mankind.

But if we miss this opportunity—and it isn't a long-term opportunity—we have to deal with it in the next 5 or 6 years—if we miss this opportunity, this country is going to pay a terrible human price. You mentioned that. I want to reinforce what you said. You're absolutely right. We cannot afford not to seize the opportunity and act. Thank you.

[The prepared statement of Secretary Brock follows:]

PREPARED STATEMENT OF HON. WILLIAM E. BROCK

Mr. Chairman and Members of the Subcommittee:

I am pleased to appear at this first in a series of hearings on the long-term economic and social consequences of the aging of the American population. Later in this series of hearings you will be hearing from Janet Norwood, the Commissioner of Labor Statistics, and from Roger Semerad, Assistant Secretary for Employment and Training. Dr. Norwood will provide you with data and projections on demographic and labor market changes. This should provide a valuable technical base for the hearings.

Assistant Secretary Semerad has recently launched a major examination of the trends in the workforce through the year 2000, analyzing the implications of those trends for human resource policies. He is to be commended for providing leadership in this area -- for too long, government and other institutions in society have been preoccupied with the crises of the moment, failing to recognize the roots of problems and dealing with them while they are still manageable.

Let me begin by outlining in very general terms what I see as some major demographic trends that will profoundly affect society in general, and the *workforce and workplace* in particular, *during* the coming decades.

- The population and labor force will continue to grow, but much more slowly than in recent decades.
- More women will enter the workforce, but the rate of increase will taper off.
- The number of young workers will decline, but the proportion of the youth labor force that is minority will increase.
- The number of older persons at work will continue to decline, in part due to earlier retirements.
- Together, women, minorities and immigrants will account for the vast bulk of net additions to the labor force in the coming decades.
- BLS projections indicate that prime age workers will constitute a larger share of the labor force in the years ahead, and the average age of the workforce will rise.

There are a number of positive implications of this demographic picture:

- A slower rate of labor force growth suggests tighter labor markets are possible and this offers an opportunity to move "at-risk" youth into the mainstream.
- Tighter labor markets should foster greater use of the abilities of minorities, women and the handicapped and a narrowing of occupational and earnings gaps.

- A more mature workforce implies greater experience, stability, reliability and productivity.

These trends present us with a challenge. We have the opportunity to take advantage of them and deal meaningfully with some of the more significant problems our society now faces: youth unemployment and associated social pathologies; youth and adult illiteracy; continuing worker dislocations; lack of equal employment opportunities for minorities and women; and employment discrimination against older workers. But, we must be bold and creative if we are to meet this challenge. We must actively promote dynamism, flexibility and adaptability in the economy and labor force. Some of the issues at which we will need to take a hard look include:

- Whether our education systems are adequately preparing our youth for the work force of the future, with its higher skill and competency requirements;
- Whether we are sufficiently addressing both basic and occupational illiteracy among our current labor force;
- Whether we have in place systems that adequately respond to future worker dislocations, and that provide workers with incentives to make necessary adjustments in a rapidly changing economy;
- Whether labor-management relations are positive rather than confrontational and negative in responding to change;

- Whether industries and firms are able to make the necessary adjustments to rapidly changing global market environments and whether workers train and retrain to remain competitive with the work forces of other countries;
- Whether current policies and approaches relating to pensions, health care, child care, the family and retirement are adequate in this new environment; and
- Whether government programs and policies directed to the solution of these problems indeed contribute to their solution, and whether those solutions are cost-effective.

Mr. Chairman, I am confident that your Subcommittee will thoughtfully delve into these and other issues, and I commend you for holding these hearings.

Representative **Scheuer**. Well, thank you very, very much, Mr. Secretary, for your predictably thoughtful, stimulating testimony.

As you say, it would be impossible in the space of 15 or 20 minutes to do more than just check off the implications to our labor system of impending population changes. So let me ask you a few specific questions. I have a number of questions ready for you and if we don't have time for them this morning I will submit them in writing.

We have the baby boom after World War II now entering the working force and behind them a much smaller group coming into the labor force. What kind of a history can they look forward to for the next 30 or 40 years? What kind of entry level jobs? What kind of impact will they have on industry and occupations? What kind of problems will industry face as the number of workers coming into the job market decreases year after year? And how will that be reflected in terms of our economy, in terms of our ability to compete abroad to be a successful competitor in global commerce? What does it mean for our education, our job training, our vocational training establishment, the fact that there's going to be a significant reduction gradually but continually in the number of entrants into the job market?

Secretary **Brock**. There are so many answers to that question because it is the essential question of what we're all about.

Let's begin with the fact that you mentioned the number of dropouts from our schools.

Representative **Scheuer**. More than a million a year.

Secretary **Brock**. Congressman, I heard a story, and I don't know if it's true—I pray it's not—but I was told that in a southern State—and I guess it could have happened almost anywhere—the valedictorian of the class was unable to be admitted into the State university because she couldn't read at the ninth grade level, and she was the valedictorian of the class.

Now that is an absolute insanity. It's unacceptable and inexcusable, and there are no apologies that anybody can make to explain away that travesty. But that's happening in this country, and it's happening in the North and in the South and in the East and in the West. It's happening in urban schools, and it's happening in rural schools.

Now dropouts are a problem, but it may be even more inexcusable to hand young people diplomas when they can't read them. That is fundamentally wrong. We simply have to deal with that problem.

You mentioned that the overwhelming majority of jobs are going to require post-secondary education. My own estimates would suggest that within the early 1990's, within 5 years, probably 75 or 80 percent of new jobs are going to require some kind of post-secondary training experience.

Representative **Scheuer**. That's where I got the statistics.

Secretary **Brock**. We're not approaching meeting that need. We're not even approaching that in terms of the skill development that we are affording our children. So we have to deal first with the educational system. Do you remember the study which the Congress authorized in Ypsilanti, Michigan, and in Harlem, New

York, where we evaluated the effects of preschool education back in the 1960's? Those kids who were put into that program on a test basis now are in the work force, and we know what happened. We know that preschool education reduced not only——

Representative **Scheuer**. The Headstart program.

Secretary **Brock**. Yes.

Representative **Scheuer**. Do you know that I went to a Headstart program when I was a kid?

Secretary **Brock**. No.

Representative **Scheuer**. In 1923. We didn't call it Headstart. We called it prekindergarten.

Secretary **Brock**. I'm sorry you're not a Republican, Congressman.

Representative **Scheuer**. This is an idea whose time has come because middle-class people have been sending their kids to Headstart programs under another label for 100 years. How come we aren't providing it for kids whose parents can't afford private schools?

Secretary **Brock**. Well, I don't think we've communicated to our communities and to our States what an opportunity it represents. But that study said that you don't just cut down on unemployment. You cut down on crime. There was a 50 percent reduction in teenage pregnancy. Nobody relates those two things, but they do relate. And that's something we have to deal with.

Representative **Scheuer**. There's a saying around the world that the best birth control device is literacy.

Secretary **Brock**. They are absolutely related.

Representative **Scheuer**. It's not only true in our country. It's true in Asia, Africa, Latin America. Once you give a woman literacy skills so she can participate in that great big wide world out there, she realizes she has other options to constant, systematic, annual child-bearing. She realizes she wasn't put on earth just to be a child-bearing machine, that there are other life roles for her, and she very quickly changes her family size goals and begins to participate in that life.

Secretary **Brock**. Absolutely. One of the reasons I feel so terribly strongly about adult illiteracy is the strongest single correlative factor in a child's educational attainment—reading capacity—is the parents. I mean, do they talk to them? Do they read to them? Do they think out loud with them?

Representative **Scheuer**. Does the kid see a book on the table, on the living room table? Does he see a magazine, a newpaper?

Secretary **Brock**. Precisely. But how does an illiterate read to a child? It can't be done. And the odds are that that child will have trouble in school and may drop out in frustration, and the problem becomes self-perpetuating.

First, then, I think the question arises. Can we not shape up and improve our educational system from preschool and beyond?

Second, you asked about what that means to the work force. It means that we've got a growing gap between the number of people overall and the number of jobs but there also is an inceasing number of people with virtually no employable skills. And while the number of people with low skills is going up, the number of low-skill jobs is going down. Now that's going to continue. One of the participants in our "Youth 2000" meeting was a business person. He said, "I'm going to promise you something. Anything that an illiterate can do, I can do cheaper and better with a machine--anything." Now what does that tell us about where we're going as a society?

What does it tell us about the whole systems we've put together? We're got a huge payroll tax system. We put taxes on work. What does that tell us? Well, that tells us that we probably are creating a disincentive for employment. That causes some concern when you start thinking about the increasing cost of social security.

So all of these things fit together, and the thing that frustrates me is that we're not fitting the pieces together. We're treating them as if they were separable and they really are not.

You mentioned the educational establishment. That to me is an opportunity area. Yes, we're going to have fewer students in that low age group, in the 3- to 18-year-old range. But, Congressman, we're not using the existing educational establishment to teach people on a continuing education basis. Look at the opportunity we have to get into adult education much more effectively than some of our colleges and universities and even high schools have done. Those facilities are there. There's a lot of money invested. We're not using them. We're using them 5, 6, 7, or 8 hours a day in many cases, no more. It's a waste. A good business would run three shifts. We don't do it in our educational plants.

But the need for continuing education in this country, to give workers a chance to constantly upgrade their skills so that they can stay in a lifetime occupation or series of jobs, is so obvious. We need to think about how to address that concern.

The botton line is we are creating two classes of people—one highly skilled, highly employable and greatly advantaged economically; and another class that is almost unemployable. Unless we change that, we're not going to be competitive in this world. We'll be bidding up the price of those who are capable of doing the job, and they in turn will have to pay the taxes to take care of those who cannot hold any job. That is an unsustainable economic system for this country and, worse, it violates what we have been building for 200 years, and that's a class-free society. We can't abandon that objective. We've got to deal with the problems.

Representative Scheuer. How fast will the job market be changing and how fast will there be a requirement for some post-secondary education training and skills? And is the Labor Department thinking about any national retraining program that could include some educational components and could include some literacy components?

Secretary Brock. Yes, we are. In those areas where we have authority to change without legislation, we are going to put a literacy component at the front end of any training program or into any adjustment action that we take.

Beyond that, we have asked the Congress for authority to add a literacy component to all of our training programs. It is almost impossible for us to train people in any reasonable skill unless they can read and write at the functional level.

I really believe that a precondition or a precursor of any training ought to be a literacy test and then the offering of assistance if the capability to read and write is not there at the moment. The capacity is there.

Representative SCHEUER. Mr. Secretary, you say you're doing what you can without legislation, with the implication that Congress wouldn't be receptive.

Secretary BROCK. I think the Congress would, it just takes time.

Representative SCHEUER. It does take time, but I can't imagine a program that would be less tangled up in partisan ideological demagogy. There is no Democratic or Republican point of view on a growing subclass in our society that has to be resentful, that has to be alienated, that has to lash out. There's no Democratic or Republican point of view, any more than Fiorello La Guardia used to say, "There's a Democratic or Republican point of view on how to clean the streets." There's no Democratic or Republican point of view on having a labor force that is productive and educated that can help us compete as a global competitor to maintain our quality of life. I can't think of anything on which you will get a more rapid, virtuously instantaneous consensus that America must remain not only the land of the free and the land of the brave but the land of the educated and the skilled and the productive.

Secretary BROCK. If I have a problem, I'm going to call you up.

Representative SCHEUER. I wish you would.

Secretary BROCK. Don't worry.

Representative SCHEUER. There are plenty of people on both sides of the aisle here who would absolutely welcome the opportunity to join in such a program. There are lots of things that Democrats and Republicans snarl at each other about that are susceptible of politicizing and so forth, but this business of having a productive, educated American is not one of them.

Secretary BROCK. I really do agree with that absolutely.

Representative SCHEUER. Now the front end of this baby boom generation that's sort of like a rabbit passing through a snake's belly, it's moving on and pretty soon the front end of that rabbit, the point of the ears perhaps, is going to hit retirement about 2010. And as this baby boom hits the retirement, that's when we're going to see a rapid expansion, a virtual explosion in the over-65 group.

Tell us what impact that's going to have on the economy, what impact is that going to have on our productivity, and who is going to pay for their golden years? They're going to be a heck of a lot longer than anybody thought post-65 golden years would be back in 1935 when we wrote the social security system.

Secretary BROCK. First of all, the earlier years are going to be good years, Congressman. The economy will benefit by the developing skill base that these people bring to the market. We're going to be a more productive country between now and 2010. This country will substantially improve its competitive circumstance, in my judgment, if we do the other basic things. But laying that aside, in terms of worker skills, this is going to be a high-skill country. It's going to be a good country and a productive country.

Now here's what's happening that causes you to worry. A lot of these workers are changing jobs rapidly, and they may not be able to carry pension benefits with them.

Second, a lot of them will be part-time workers. Women who are raising children may want to work a 20-hour week as opposed to a

40-hour week, for example. They may not be able to develop a retirement plan that is sufficient. You get to 2010, and the results are fairly predictable. Given the present system, we will reach an unsustainable point because the social security burden on those three workers that I mentioned——

Representative SCHEUER. Down from nine.

Secretary BROCK. Yes, down from nine to three.

Representative SCHEUER. Is that going to produce an intergenerational war?

Secretary BROCK. It can.

Representative SCHEUER. Is that going to produce tensions between the elderly and the young working people?

Secretary BROCK. Yes, it can, and I think that's what we need to be worried about and think about. It is not in the interest of young people to fear their parents, and it certainly is not in the interest of parents to resent their children. That is insane.

What do we have, though? We have a social security system which is payroll tax based. Now we have already, in my judgment, reached the point where it is questionable whether we can raise the payroll taxes any more without creating a disincentive for employment and creating an incentive to replace people with machines. I'm not sure that it is really wise for this country to continue to put that burden on employment, because I don't know who's going to pay the taxes. Machines don't pay taxes.

If we have reached that point, what do we do about the financing of social security? We can't increase the payroll tax. We've got fewer people paying it, more people drawing benefits. What do we do?

I wonder if we need to ask ourselves some questions about the tax system in the country. Is it properly focused to maximize economic growth and to respond to society's needs as well, including the retirement question? I wonder, for example, if sometime we're not going to have to start thinking about a different form of taxation, an alternative, perhaps a consumption tax, rather than a payroll tax.

Those are questions we really ought to be asking now. You're right. It isn't going to reach a crisis until 2010. We're at least pretty comfortable until that point, for retirement benefits. Medicare may experience problems even sooner. But at some point, that balloon is going to——

Representative SCHEUER. Well, I want to spare you the pain of even having to think before this panel on the problems of supporting our health care system not only for the over-65 group but even more for the over-85 group. That is an absolute morass.

Secretary BROCK. Yes.

Representative SCHEUER. You did raise the interesting question of what happens when you substitute machines for people and the infinite implications that has. It reminds one of the story of Henry Ford walking through a Ford plant with Walter Reuther, the head of the automobile workers union. And Ford said to Reuther—he pointed to a great big machine, you poured a little metal in at one end and at the other end out came a finished car. And Ford said to Reuther, "You know, Walter, this machine never goes out on strike." And Reuther said to Ford, "I know that, Henry, but does that machine buy Ford cars?"

Secretary **Brock**. That's exactly right. They're both right.

Representative **Scheuer**. Of course they are.

We've sort of had a traditional retirement age at 65 when people were psychologically ready to retire at 65. Back in 1935, as I said, we expected a few years of rocking on the rocker with a shawl after 65 quietly waiting for the grim reaper. But today, we expect decades of very active post-65 life, and a lot of people dread compulsory retirement. I have passed into the great beyond as far as that 65 barrier is concerned and if anybody told me I had to retire I think I'd want to put a silver bullet through my head. I don't mean just retire from Congress. There are plenty of great things to do in that big world out there, but retire from 9 to 5 positive involvement in life.

There are an awful lot of people who want to continue working, participating, perhaps not a 52-week year or a 50-week year, perhaps not a 40-hour week, maybe a 30-hour week, maybe 3 or 4 days a week, maybe afternoons, maybe mornings, maybe 10 to 4, who knows.

As a nation, what should we be thinking about in terms of keeping active and fulfilled the post-65 population, adding to their retirement benefits somewhat from work, but also not frustrating the under-65's who want to move up the ladder of responsibility in corporations, in business, in government, everywhere, by having these people hang around while life expectancy goes up and up and up. How do you solve that pressure of the young people wanting the elderly to get out and the elderly saying, "Hey, I want to remain active. Give me a break."

Secretary **Brock**. First of all, you have to accept one fact. People are healthier, they're happier, they're more productive when they're working. When people literally stop engaging in any gainful activity, they get health problems. Their costs go up and so do society's. Medicaid and Medicare costs go right through the ceiling. If they go in the hospital they stay longer because in their view they don't have any reason to come out. So it is in our economic interest in terms of societal cost to keep people productive.

Second, this country is going to need their skills. Americans are healthier at age 65 than we used to be at age 45 in this country. Their minds are good. Their physical capacities are far better than they were even a few decades ago. They have the capacity to contribute and to make this country economically stronger and more competitive.

What's wrong with their working 20 or 30 hours a week or working alternative weeks? But we don't have the capacity to do that now. A few businesses are being very creative. Most haven't really thought about the problem at all. But the fact is that they could be greatly advantaged with a more stable, more loyal, more dedicated, older work force if the plant was allowed to take advantage of flexible hours or different kinds of scheduling so that you could continue to use those talents.

What that does is increase our total economic growth. The young people in this country are not going to be disadvantaged by it; they will be advantaged. We will be creating more jobs, more growth, more opportunity, more sales. We're going to sell more cars. We're going to sell more TV's. And there will be more young people working, too. We're going to be short of people if we don't think in terms of using older workers. I think it is essential that we do.

Let's think about one other thing, too.

Representative SCHEUER. Well, let me just interrupt you there for one second. We've talked and you've spoken brilliantly and eloquently about the problem of adult illiteracy, even teenage illiteracy, dropoutism. Just taking one classical need for our post-65 literate population is to harness all of that talent to the business of teaching illiterate Americans how to read, write and count.

Secretary BROCK. You said what I was going to say before I said it.

Representative SCHEUER. I'm sorry. I thought you were going on to another subject.

Secretary BROCK. No. We're absolutely on track. We're going to be a million teachers shy in this country in the next 5 years, Congressman. What a wonderful opportunity for some people who have over a lifetime acquired a tremendous base of skills and talent, and who care about young people. We would need to end mandatory retirement, and I think we ought to remove that cap—I don't believe in it. I think retirement ought to depend on the individual. We shall take that cap off and look at what we could do to bring those people back into the mainstream. Look at what we could do to resolve some of our day care problems by making use of a lot of the older Americans who love kids.

There are women who would dearly love to work. Their husband may be working, and they would like to work, too, but they have to stay home to take care of elderly parents. What's wrong with somebody who is not so frail, but maybe in the over-65 group, assisting in that kind of thing? The opportunities are legion. It simply depends upon our creativity and willingness to respond.

Representative SCHEUER. We've already had some models. The "each-one-teach-one" program.

Secretary BROCK. Yes. I used to teach literacy in my home town of Chattanooga, and we used the "each-one-teach-one" system, and it's exciting. It works.

Representative SCHEUER. Fantastic. Of course it does. This is a great national challenge

Well, Mr. Secretary, you've given us some wonderfully stimulating things to think about. We have imposed upon your time. I know you have a Cabinet meeting scheduled. We thank you very much for your testimony and we'll continue to look to you for the kind of splendid leadership that you've been showing us until now. Thank you very much.

Secretary BROCK. Thank you, Congressman.

Representative SCHEUER. We will now have our panel two, Mr. John Keane, Director, Bureau of the Census. Mr. Keane will be followed by panel three, Professor Norman Ryder, Ms. Wendy Baldwin, and Mr. Harry Rosenberg, in about 20 minutes or half an hour.

Mr. Keane, we're very happy to have you. Would you introduce the folks who have accompanied you?

STATEMENT OF JOHN G. KEANE, DIRECTOR, BUREAU OF THE CENSUS, ACCOMPANIED BY BARBARA TORREY, CENTER FOR INTERNATIONAL RESEARCH; AND CYNTHIA TAEUBER, POPULATION DIVISION

Mr. KEANE. Thank you, Congressman, I shall. On my right is Barbara Torrey, who heads the Center for International Research at the Census Bureau. She would have an overview of the topic from an international viewpoint. On my left, is Cynthia Taeuber, who is an expert in statistics on aging on the domestic side of the Census Bureau.

Representative SCHEUER. Cynthia Taeuber. There's a population expert by that name. Is he related to you?

Ms. TAEUBER. Yes, by a previous marriage. I was married to his older son.

Representative SCHEUER. I see. Thank you very much. He's a very distinguished member of the population community.

Mr. Keane, we'd be happy to have you chat with us for 10 or 12 minutes, preferably not reading your statement, hitting the highlights of your prepared statement and referring to anything you heard Secretary Brock comment on or I comment on, and then after that I'm sure we'll have some questions for you.

Mr. KEANE. Thank you, Congressman. I certainly was stimulated by both his comments and your interchange.

I have some charts in slide form which will be interjected into my comments, so I'd better at least make a partial attempt at reading here or we're going to throw off several people here and perhaps not make this presentation as productive as it ought to be.

I'm starting with a reference not in my statement but an event that just might call the attention to this issue in a telling kind of way. The event is a wedding this past week but not the one in London. It was the Kennedy wedding in Massachusetts. Rose Kennedy was not at the reception but Senator Kennedy toasted her in her absence on behalf of the family. Among the things he said was "This remarkable woman was living half of the life of this country." Perhaps that is a way to put the issue of our aging population in focus in a way that no one else has. We know others who have lived almost half of the life of this country.

Representative SCHEUER. Not quite, but close.

Mr. KEANE. Senator Kennedy said "about." I'm glad you asked the Census Bureau to make us precise because we pride ourselves on being that way.

But in less than 25 years, Congressman, a large, elderly population will be a reality in America. Previous fertility patterns as well as improvements in life expectancy will result in a larger number and proportion of persons aged 65 years or older than the United States has ever experienced before. These demographic conditions represent only one factor among many that will influence future economic prospects; the growth of the elderly population, however, is a virtual certainty and such knowledge allows us the time for planning. As Secretary Brock said, I believe he used the reference "a short window," but nevertheless, a window.

This morning I'd like to approach this from four aspects. First of all, this Nation's demographic history since the mid-1940's. Second, how that will alter the age structure of our country into the middle of the next century. Third, the characteristics of our older population. Finally, social and economic implications of that aging society.

Because those implications will challenge policymakers and affect all of us, we are in an interdependent society and we ought not to forget that.

We in the Federal statistical system recognize this challenge and are working together to produce the information that will be needed to form policy in a large aging society.

[Slide.]

Homing in on the first point, demographic history. The primary basis for the future dramatic growth of the elderly population lies in the period from 1946 through 1964 when 75 million persons were born. The baby-boom generation, those born during that period, totaled 70 percent more people than were born during the preceding two decades and now represent about one-third of this Nation's population. As they age, the impact of the size of the baby-boom population continues to be felt on a wide variety of institutions as well as at the personal level.

Fluctuations in the sizes of different age groups can have dramatic effects on our economy, as recent history demonstrates. From the 1950's through the mid-1970's American society was adjusting to the size and needs first of its babies and then of its teenagers. Elementary schools sprouted up everywhere only to be closed or converted to other uses during the 1970's. From 1950 to 1980, the teenage and young adult population grew by an average of 3 percent a year. Rates of college enrollment and unemployment among young people increased. At the same time, the aged population grew at an even faster rate than the youth, due primarily to lower mortality, but their numbers were small relative to the size of the baby-boom generation. By the year 2010, the baby-boom generation will begin to reach age 65 and society and the economy will have to adjust to a large elderly population.

Dramatic improvements in life expectancy have also contributed to the growth of the elderly population. Death before the mid–60's is now relatively rare. More and more, children will know not only their grandparents, but also their great-grandparents, mostly great-grandmothers, as four living generations begin to become commonplace.

[Slide.]

On to the age structure of the 21st century population. What will the age structure look like beyond 1985 and into the 21st century? By making certain assumptions about levels of fertility, mortality, and immigration, we can project the future size and age distribution of the population. The numbers that I will discuss represent our middle series of projections and thus do not anticipate any significant changes in any of the components of population. Table 1 additionally shows projections under different assumptions about fertility, mortality, and migration.

[Slide.]

For the next 25 years, the elderly population will continue to increase steadily but not dramatically. The oldest members of the baby boom will be nearing age 60 and the youngest members will have just passed age 40. Then from the year 2010 to the year 2030, growth will virtually halt for any age group other than the elderly.

[Slide.]

The number of person 65 and over will jump from 39 million to 65 million and from 13 to 21 percent of the total population.

Also, the ratio of elderly persons to persons under age 20 will begin to rise dramatically. By the year 2025, the baby boom cohort will be 60 to 80 years of age. The proportion of the population under age 20 will be 27 percent compared with the 40 percent seen in 1965 when the baby-boom group was young. In the year 2025, we will likely have nearly as many people over 60 as we have under 20 years of age.

The size of the elderly population will be at least 2½ times the size of the elderly population in 1980. The proportion of elderly in the total population will be significantly higher, from one in nine Americans to one in five Americans. In about that year, 2025, the final phase of the gerontological explosion caused by the baby-boom generation will begin. There will be significant growth only among the very oldest after 2025 as the baby boom generation reaches 80 years and older. The growth of the younger segment of the elderly population will have begun to decelerate as persons born in the baby-bust period following 1965 reach age 65. The aging of the aged, the great-grandma boom, will be upon us as the cohort born from 1946 to 1964 swells the size of the 80 and over population. Today, the 80 and over group numbers about 5.9 million. In the year 2030, they are expected to number about 17 million. And by the year 2050, they could reach 26 million.

If greater reductions in mortality rates than now anticipated were to occur, even these figures would understate the size of the future older population. Today, one in 40 Americans is 80 years or older. In the middle of the next century, at least 1 in 12 will be 80 years or older.

Third, characteristics of our older population. To understand the effect of the older population on our society, we must look at not only the size of the older population but beyond it to its characteristics. The population 65 years and over, commonly referred to as "the elderly," are demographically, socially, economically, and medically a heterogeneous population. It is very different to be part of a healthy 65-year-old married couple household with social security and work-related pension than it is to be an 85-year-old widow and severe arthritis and a chronic heart condition and the minimum social security benefit.

So today's elderly are different from the rest of the population in many ways and although we cannot predict that existing differences will persist into the future, we should be aware that those differences exist in designing public policy for the elderly.

Fourth, what are the social and economic implications of this aging society? Two major fears about old age are of concern—health and economic status. When 1 in 12 Americans is 80 years or older, health care and especially catastrophic and long-term care services will require as increasingly greater share of GNP than is now spent. Currently the Federal Government spends about $51 billion on the population 80 years and over. With the greatly increased projected number of very old persons, under current policy, we can expect even higher costs for this group.

Catastrophic illness and illnesses of long duration are always a significant threat. They are so even to the elderly with good economic resources because they have little opportunity to replace their assets once they are spent. Personal resources and family health which were adequate in the past may not meet the needs of tomorrow's elderly with their greater life expectancy.

Aside from the very important and obvious issue of providing health care, there will be other policy decisions with potentially wide-ranging impact on the future economic status of the elderly. Along with spending for health care, the GNP may also be affected by pension plan payouts for the members of this generation as they retire.

In fact, the aging of the baby-boom generation presents a novel situation. We can only try to anticipate some of the problems and solutions that will utimately evolve. To adequately monitor the dramatic changes requires a sophisticated statistical system and study of the experience of other nations. That's why we do that here at the Census Bureau and why I have Barbara Torrey at this hearing with me. At the Census Bureau, we have been working to improve our statistics on the older population. Along with the National Institute on Aging, the Census Bureau sponsored a meeting last May of the directors of Federal agencies concerned with aging-related statistics. We agreed to establish an interagency forum on aging-related statistics that will extend our individual capabilities through cooperative efforts. A statement of the highlights of that meeting with a list of participants is submitted for the record.

The essential structure of the social security system was based on the demographic situation of the 1930's, when a large work force could be depended upon to support a relatively small elderly population. Soon, the situation will be quite different. Policymakers are already trying to devise alternative ways to keep the system vital in light of these demographic changes. From the perspective of our national economy, we must consider not just the obvious impact of a large older population but the consequences of a smaller work force. The health of the American economy has been in part a function of a large and highly skilled work force. As the labor force ages, both private and public institutions can be expected to try to devise ways to make better use of the work force, improving productivity and finding ways to keep older workers in the labor force longer.

America, and much of the rest of the world, are aging societies. If we as a society anticipate and plan now for all age groups, then individuals and families will be better able to adjust their own expectations and plan for their futures. The magnitude of change can be foreseen to some extent and presents a challenge to adapt public policy far enough in advance to be successful.

[The prepared statement of Mr. Keane follows:]

PREPARED STATEMENT OF JOHN G. KEANE

CENSUS BUREAU INSIGHTS AND IMPLICATIONS REGARDING AN AGING SOCIETY

INTRODUCTION

In less than 25 years, a large, elderly population will be a reality in America. Previous fertility patterns as well as improvements in life expectancy will result in a large number and proportion of persons aged 65 years or older than the United States has ever experienced before. These demographic conditions represent only one factor among many that will influence future economic prospects; the growth of the elderly population, however, is a virtual certainty and knowledge allows for planning.

DEMOGRAPHIC BACKGROUND

The primary basis for the future dramatic growth of the elderly population (Table 1, Chart 1) lies in the period from 1946 to 1964, when 75 million persons were born. The baby-boom generation, those born during that period, totaled 70 percent more people than were born during the preceding two decades and now represent about one-third of the U.S. population. As they age, the impact of the size of the baby-boom population continues to be felt on a wide variety of institutions as well as at the personal level.

Fluctuations in the sizes of different age groups can have dramatic effects on our economy, as recent history demonstrates. From the 1950s through the mid-1970s (Charts 2-4), American society was adjusting to the size and needs first of its babies and then of its teenagers. Elementary schools sprouted up everywhere only to be closed or converted to other uses during the 1970s. From 1950 to 1980, the teenage and young adult population grew by an average of three percent a year (Table 2, Chart 5). Rates of college enrollment and unemployment among young people increased. At the same time, the aged population grew at an even faster rate than the youth, due primarily to lower mortality, but their numbers were small relative to the size of the baby-boom generation. By the year 2010, the baby-boom generation will begin to reach age 65 and society and the economy will have to adjust to a large elderly population.

Dramatic improvements in life expectancy have also contributed to the growth of the elderly population. Between 1900 and 1984, life expectancy at birth rose by 60 percent, from 47 years in 1900 to 75 years in 1984 (Chart 6). Women who now live to age 65 have, on average, an additional 19 years of life, and men, another 15 years (Chart 7). Death before the mid-60's is now relatively rare. More and more, children will know not only their grandparents, but also their great-grandparents (mostly their great-grandmothers) as four living generations become commonplace.

AGE STRUCTURE IN THE 21ST CENTURY

What will the age structure look like beyond 1985 (Chart 8) and into the 21st century? By making certain assumptions about levels of fertility, mortality, and immigration, we can project the future size and age distribution of the population. The numbers that I will discuss represent our middle series of projections and thus do not anticipate any significant changes in any of the components of population change. Table 1 additionally shows projections under different assumptions about fertility, mortality, and migration.

For the next 25 years (Chart 9), the elderly population will continue to increase steadily but not dramatically. In 2005 (Chart 10), the oldest members of the baby boom will be nearing age 60 and the youngest members will have just passed age 40. As the postwar baby-boom cohorts begin to reach age 65 starting in the year 2011, the number of elderly persons and the ratio of elderly persons to persons under age 20 will begin to rise dramatically. From 2010 to 2030, growth will virtually halt for any age group other than the elderly (Table 2, Chart 11), and the number of persons 65 and over will jump from 39 million to 65 million and from 13 to 21 percent of the total population (Table 1).

By 2025 (Chart 12), the baby-boom cohort will be 60 to 80 years of age. The proportion of the population under age 20 will be 27 percent compared with the 40 percent seen in 1965 when the baby-boom group was young. In 2025, we will have nearly as many people over 60 as we have under 20 years of age.

The size of the elderly population in 2030 will be at least 2 1/2 times the size of the elderly population in 1980. The proportion elderly in the total population will be significantly higher, from every 9th American to every 5th American. The proportion of elderly in the U.S. population will, by 2020, reach 17 percent, the same as that of our "oldest" state today, Florida.

Beginning in about 2025, the final phase of the gerontological explosion caused by the baby-boom generation will begin. There will be significant growth only among the very oldest after 2025 (Chart 13), as the baby-boom generation reaches 80 years and older. The growth of the younger segment of the elderly population will have begun to decelerate as persons born in the baby-bust period following 1965 reach age 65. The aging of the aged, the great-grandma boom, will be upon us as the cohort born from 1946 to 1964 swells the size of the 80 and over population. Today, the 80 and over group numbers about 5.9 million; in 2030, they are expected to number about 17 million and by 2050 (Chart 14), they could reach 26 million. If greater reductions in mortality rates than now anticipated were to occur, even these figures would understate the size of the future older aged population (Table 1). Today, every 40th American is 80 years or older; in 2050, at least every 12th person would be 80 years or older.

CHARACTERISTICS OF THE OLDER POPULATION

To understand the effect of the older population on our society, we must look not only at the size of that population but also at their characteristics. The population 65 years and over, commonly referred to as "the elderly," are demographically, socially, economically, and physically a heterogeneous population. It is very different to be part of a healthy, 65-year-old married couple with Social Security and a work-related pension than it is to be an 85-year-old widow with severe arthritis and a chronic heart condition and the minimum Social Security benefit.

Beyond the personal level, there are considerable differences among age groups in terms of their size, level of educational attainment, lifetime economic experience, and so forth, all of which have implications for the health and social-economic well-being of the aged. The extension of life will result in large numbers of economically and physically vigorous old people along with large numbers of chronically ill, dependent persons.

Today's elderly are different from the rest of the population in many ways and, although we cannot predict that existing differences will persist into the future, we should be aware of those differences in designing public policy for the elderly. The work and savings patterns of the current generation of young and middle-aged people give us definite hints about their likely economic status as they age. Furthermore, certain economic characteristics of the elderly population such as income are very closely tied to public policy decisions.

As is now true, women will continue to sharply outnumber men. In 2030, projections indicate that there will be more than twice as many women 80 and over as there are men that age. Aged women are often widowed, live alone, and experience a disproportionate degree of poverty. Elderly men, on the other hand, are much more likely to be married than widowed; most, therefore, live in a family setting. These differences are due to death rates of elderly married men that are 2 1/2 times higher than those of elderly married women, the far higher remarriage rates of elderly men (seven times higher), and the tendency of the elderly men who marry to marry women under age 65 (who are more likely to be in the labor force and have more economic resources than older women) as well as women over 65.

Patterns of marital status and living arrangements shift considerably with advancing age. While the changes follow the same general course for elderly women and men, they are much more dramatic for women. In 1984, four out of five men aged 65 to 74, and two out of three men age 75 and over were married and living with their wives. But only half of the women aged 65 to 74 were married and living with their husbands and less than one in four women 75 and over lived with their husband.

Associated with these marital status changes are pronounced changes in the living arrangements of elderly women. The most notable is the sharp increase in the proportion of women living alone, and the sharp decline in the proportion of women living with other family members. There has been relatively little change in living arrangements of elderly men. The increased tendency of older women to live alone is likely to continue: it is expected that by 1995, over 60 percent of the women 75 years and over will be living alone as compared with 50 percent in 1984. The trend towards independent living has come about partly as a result of improvements in economic status, partly from a desire to be independent, and partly from simple lack of another alternative.

Older persons mostly "stay put." Less than 5 percent of the elderly changed their place of residence in 1983-1984, and usually the move was within the same county. Many live out their lives in small-town America or in certain sections of our large cities, especially the inner, deteriorated sections. Enclaves of older persons have long been evident in large cities, but concentrations of elderly people are now appearing in metropolitan suburbs as well, albeit in a more dispersed form, resulting from the large postwar migration to these areas.

What long-distance movement the elderly have participated in has tended to be out of the Northeastern states into the South and West, particularly out of the Middle Atlantic states and into the South Atlantic and Mountain states.

The aging of the nation's population is reflected in the record of most states. In 1983, Florida led all other states by far in its proportion of elderly, with 17.6 percent age 65 and over. Many Midwestern farm-belt states - Iowa, South Dakota, Missouri, Nebraska, and Kansas - as well as Rhode Island, Pennsylvania, Maine, and Massachusetts also have relatively high proportions of elderly (13 percent or more) as compared with the national average of 11.9 percent. Several Western states - Utah, Wyoming, Colorado, Nevada, New Mexico - and the South - Texas, Louisiana, Georgia - as well as Alaska and Hawaii, have less than 10 percent elderly among their populations. Low proportions of the elderly tend to occur in states with high in-migration of young adults and with high fertility.

No other aspect of life for the elderly is as directly tied to policy decisions as their economic well-being. Labor force participation, income, and the accumulation of assets over the younger years are all closely related to the need for Social Security and other pension plans, Medicare regulations, and even certain tax laws. Many of the changes in the economic status of the elderly in recent years are direct results of federal policies developed in earlier years directed towards both the young and the old.

During the last few decades there have been sharp declines in the proportion of older men in the labor force while the proportion of older women in the labor force has risen moderately. The decline in labor force participation of older men reflects the combined effects of an increase in voluntary retirement associated with the more widespread eligibility of workers under Social Security and other pension plans, the increase in disability retirements, and other labor market conditions which tend to discourage older workers. Another important factor is the growing financial ability of older workers to retire, which is associated with the growth in retirement programs.

It is difficult to predict how increases in the age of eligibility for full Social Security benefits will affect the trend towards early retirement because benefit levels are only one part of the decision to retire. It may reduce early retirement somewhat but there is a significant minority who retire early because they have little choice. Today, from one-third to one-half of those who retire early say they did so because of health or lack of employment prospects; thus, we may expect to see increased use of the unemployment and disability insurance systems. Changes in our occupational structure will also affect the ability of the elderly with physical limitations to work.

In terms of the future, the potential pool of workers will decline, as a result of the decline in the number of births after the mid-1960's and through the 1970's, Some predict that the reduced size of the younger population will lessen the pressure on the older population to retire early. But increased participation of women of all ages in the labor force could mean that older persons will still be competing for work, particularly part-time work.

A relatively high proportion of the baby-boom generation are white-collar workers who traditionally have been more likely to want to continue working as they get older. Whether jobs will be available for older workers in the future is not clear.

Steady employment at younger ages is important partly because the single most important source of income for the elderly is Social Security benefits. Data from the Current Population Survey show that about one-fifth of the elderly population received virtually all (90 percent or more) of their income from Social Security. For over half, the benefits constituted over half of their income. Since many such persons had low earnings when they were working, they are probably receiving benefits near or below the poverty line. One's work experience as a young person can affect one's economic status as an older person. High unemployment of young Black males, for example, is not just a problem of youth. Long periods of unemployment (or work in jobs without private pension systems) reduce the retirement benefits available when one is elderly.

The great majority of elderly persons are not poor even though elderly persons are more likely to be poor than younger persons. Poverty among the elderly population was considerable up until a few decades ago, but the proportion with incomes below the poverty level has been falling sharply, reaching 12.4 percent in 1984 for the elderly overall. But, the elderly are not a homogeneous group subject to sweeping generalizations. The poverty rate is much lower than 12.4 percent for some segments of the elderly population but much higher for others. Higher poverty levels are more likely to occur among those who live alone (Figs. 15-18), and families maintained by women (Fig. 15 and 16) and by Blacks (Fig. 17). For example, in 1979, the poverty rate for all persons 65 years and over was 15 percent, but the poverty rate for males 65 to 74 years old who lived in families was 7 percent; if they lived alone, it was 22 percent. For women that age, the rates were slightly higher, 8 percent and 27 percent respectively. The poverty rate also increases with advancing age: for example, the poverty rate for Black women 65-74 years old who lived alone was 58 percent, but for Black women 85 years and over who lived alone, it was 73 percent (Table 3).

Although the elderly as a group have lower income levels than younger persons, a number of studies show improved economic status among certain segments of the population. There is evidence from the 1980 census which suggests that assets of many older persons remain intact or increase even while current income decreases. From the Survey of Income and Program Participation (SIPP), we found that the median net worth of those 65 years and over is greater than for any other age group when income levels are held constant. Even when the value of home equity is removed, asset levels of the elderly still exceed those of other ages (Table 4). Among the elderly with assets, major assets include deposits at finanicial institutions, other interest-earning assets, stocks and mutual fund shares, rental property, and homes (Table 5). A sizeable "young-old" population with incomes greater than the median for all households may well become more and more likely in future years, even as we continue to have a significant minority of poor elderly, particularly among the oldest old. Health costs, for example, can make an enormous difference in the economic status of the oldest old as they use assets to cover serious, long-term illnesses. Longer life expectancy has not necessarily translated into better health. It is possible that chronic, serious, and expensive health problems may increase as the population ages.

Tomorrow's elderly will be very different from today's elderly in some important characteristics that bear on their ability to function effectively in old age. For example, the relatively high educational attainment of the baby-boom generation bodes well for their lifetime economic status, and as a result, the opportunity to provide for their old age. Research has also shown that those with higher levels of education tend to have better overall health and longer life expectancy. In 1985, 86 percent of those aged 25 to 44 years were high school graduates compared with only 40 percent of the elderly. One fourth of the baby-boom generation had completed 4 or more years of college, and 10 percent had 5 or more years of college; for persons 65 years and over, the percentages were 9 and 3 respectively. Another indication that the future elderly population will probably have a very different retirement experience than today's elderly is based on changes in occupational patterns. Today's elderly women, especially Black women, are much more likely to have been employed in occupations that were not formerly covered by Social Security. Younger women, on the other hand, are much more likely to be employed in occupations covered by Social Security and other pension plans, and thus, are more likely to be in better financial shape in old age than their grandmothers are today.

SOCIAL AND ECONOMIC IMPLICATIONS OF AN AGING SOCIETY

Because of the demographic conditions that exist today, as a nation, we will be much "older" in the next century and consequently, the nature of American society will be vastly different from today. High proportions of elderly persons relative to the number of productive workers, continued low fertility and very low mortality, all could have profound social and economic consequences. In looking toward this future, we should recognize that careful planning goes beyond devising ways to accommodate and care for this burgeoning group. It should also consider the societal impact of a much older age structure and the consequences for individuals of all ages. Further, it should consider the tremendous variation in health and economic status within a heterogenous elderly population.

Two major fears about old age concern health and economic status. When one of every twelve Americans is 80 years or older, health care and especially catastrophic and long-term care services will require an increasingly greater share of the GNP than is now spent. Currently, the Federal government spends about $51 billion on the population 80 years and over. With the greatly increased projected number of very old persons, under current policy we can expect even higher costs for this group. Catastrophic illness and illnesses of long duration are always a significant threat, even to the elderly with good economic resources, because they have little opportunity to replace their assets once they are spent. Personal resources and family help which were adequate in the past may not meet the needs of tomorrow's elderly with their greater life expectancy.

Aside from the very important and obvious issue of providing health care, there will be other policy decisions with potentially wide-ranging impact on the future economic status of the elderly. These include laws affecting workers, taxpayers, and employers, and dealing with such issues as leave for parental care, tax breaks for parental care, pension portability, tax incentives for retirement saving, and so on. Along with spending for health care, the GNP may also be affected by pension plan payouts for members of the baby-boom generation as they retire.

In fact, the aging of the baby-boom generation presents a novel situation. We can only try to anticipate some of the problems and solutions that will ultimately evolve. To adequately monitor the dramatic changes requires a sophisticated statistical system and study of the experience of other nations. At the Census Bureau, we have been working to improve our statistics on the older population. Along with the National Institute on Aging, the Census Bureau sponsored a meeting last May of the directors of federal agencies concerned with aging-related statistics. We agreed to establish an Interagency Forum on Aging-Related Statistics that will extend our individual capabilities through cooperative efforts. A statement of the highlights of that meeting with a list of participants is submitted for the record.

The essential structure of the Social Security system was based on the demographic situation of the 1930's, when a large workforce could be depended upon to support a relatively small elderly population. Soon, the situation will be quite different. Policy makers are already trying to devise alternative ways to keep the system vital in light of these demographic changes. From the perspective of our national economy, we must consider not just the obvious impact of a large older population but the consequences of a smaller workforce. The health of the American economy has been in part a function of a large and highly skilled workforce. As the labor force ages, both private and public institutions can be expected to try to devise ways to make better use of the work force, improving productivity and finding ways to keep older workers in the labor force longer.

America, and much of the rest of the world, are aging societies. If we as a society anticipate and plan now for all age groups, then individuals and families will be better able to adjust their own expectations and plan for their futures. The magnitude of change can be foreseen to some extent and presents a challenge to adapt public policy far enough in advance to be successful.

TABLE I

THE GROWTH OF THE OLDER POPULATION
ACTUAL AND PROJECTED 1900-2050
(Numbers in thousands)

	Total	55 to 64 years		65 to 74 years		75 to 84 years		85 years and over		65 years and over		75 years and over	
Year	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1900	76,303	4,009	5.3	2,189	2.9	772	1.0	123	0.2	3,084	4.0	895	1.2
1910	91,972	5,054	5.5	2,793	3.0	989	1.1	167	0.2	3,954	4.3	1,156	1.3
1920	105,711	6,532	6.2	3,464	3.3	1,259	1.2	210	0.2	5,088	4.7	1,469	1.4
1930	122,775	8,397	6.8	4,721	3.8	1,641	1.3	272	0.2	6,634	5.4	1,913	1.6
1940	131,669	10,572	8.0	6,375	4.8	2,278	1.7	365	0.3	9,019	6.8	2,643	2.0
1950	150,697	13,295	8.8	8,415	5.6	3,278	2.2	577	0.4	12,295	8.1	3,855	2.6
1960	179,323	15,572	8.7	10,997	6.1	4,633	2.6	929	0.5	16,560	9.2	5,562	3.1
1970	203,302	18,608	9.2	12,447	6.1	6,124	3.0	1,409	0.7	19,980	9.9	7,533	3.7
1980	226,505	21,700	9.6	15,578	6.9	7,727	3.4	2,240	1.0	25,544	11.3	9,967	4.4
1984	236,416	22,210	9.4	16,596	7.0	8,793	3.7	2,596	1.1	28,040	11.9	11,389	4.8
Middle Series: 1/													
1990	249,657	21,053	8.4	18,035	7.2	10,349	4.1	3,313	1.3	31,697	12.7	13,662	5.5
2000	267,955	23,767	8.9	17,677	6.6	12,318	4.6	4,926	1.8	34,921	13.0	17,244	6.4
2010	283,238	34,848	12.3	20,318	7.2	12,326	4.4	6,551	2.3	39,195	13.0	18,877	6.7
2020	296,597	40,298	13.6	29,855	10.1	14,486	4.9	7,081	2.4	51,422	17.3	21,567	7.3
2030	304,807	34,025	11.2	34,535	11.3	21,434	7.0	8,612	2.8	64,581	21.2	30,046	9.9
2040	308,559	34,717	11.3	29,272	9.5	24,882	8.1	12,834	4.2	66,988	21.7	37,716	12.2
2050	309,488	37,327	12.1	30,114	9.7	21,263	6.9	16,034	5.2	67,411	21.8	37,297	12.1
High Series 2/													
1990	254,122	21,189	8.3	18,182	7.2	10,428	4.1	3,380	1.3	31,990	12.6	13,808	5.4
2000	281,542	24,212	8.6	18,113	6.4	12,747	4.5	5,386	1.9	36,246	12.9	18,133	6.4
2010	310,006	35,970	11.6	21,171	6.8	13,140	4.2	7,756	2.5	42,067	13.6	20,896	6.7
2020	340,762	42,537	12.5	31,554	9.3	15,762	4.6	9,016	2.6	56,332	16.5	24,778	7.3
2030	369,775	36,804	10.0	37,400	10.1	23,770	6.4	11,418	3.1	72,588	19.6	35,188	9.5
2040	398,521	38,373	9.6	32,564	8.2	28,426	7.1	17,568	4.4	78,558	19.7	45,994	11.5
2050	427,900	44,048	10.3	34,246	8.0	25,063	5.9	23,416	5.5	82,725	19.3	48,479	11.3
Low Series 3/													
1990	245,753	20,910	8.5	17,925	7.3	10,226	4.2	3,201	1.3	31,352	12.8	13,427	5.5
2000	256,098	23,326	9.1	17,290	6.8	11,887	4.6	4,444	1.7	33,621	13.1	16,331	6.4
2010	261,482	33,836	12.9	19,525	7.5	11,537	4.4	5,486	2.1	36,548	14.0	17,023	6.5
2020	262,695	38,648	14.7	28,332	10.8	13,271	5.1	5,532	2.1	47,135	17.9	18,803	7.2
2030	257,443	32,023	12.4	32,286	12.5	19,310	7.5	6,490	2.5	58,086	22.6	25,800	10.0
2040	246,459	32,090	13.0	26,778	10.9	21,947	8.9	9,391	3.8	58,116	23.6	31,338	12.7
2050	232,222	31,335	13.5	27,008	11.6	18,241	7.9	11,088	4.8	56,337	24.3	29,329	12.6

Bureau of the Census, Decennial Census of Population, 1900-1980 and Projections of the Population of the United States 1982 to 2080, Series P-25, No. 952, 1984.

1/ Assumes a total fertility rate of 1900, life expectancy at birth of 79.6 years, and net immigration of 450,000 per year.

2/ Assumes a total fertility rate of 2300, life expectancy at birth of 83.3 years, and net immigration of 750,000 per year.

3/ Assumes a total fertility rate of 1600, life expectancy at birth of 76.7 years, and net immigration of 250,000 per year.

TABLE 2 - POPULATION CHANGE: 1950-2050
(Average Annual Percent Change)

Life Cycle Stage	Age	1950-1980	1980-2010	2010-2030	2030-2050
Preschool	Under 5 years	0	0.3	0.1	0
School Age	5-13	1.3	0.1	0.2	-0.1
	14-17	3.0	-0.2	0.1	-0.2
Young Adult	18-24	3.0	-0.3	-0.3	-0.1
Child Rearing	25-34	1.9	-0.1	0	0.2
	35-44	0.7	1.4	0.5	-0.2
Empty Nest	45-64	1.5	2.5	0.4	0.2
Young Old	65-74	2.8	1.0	3.5	-0.6
Aged	75-84	4.5	1.9	3.7	0
Oldest Old	85+	9.5	6.3	1.6	4.3

SOURCE: Bureau of the Census, 1950 and 1980 Decennial Censuses; and "Projections of the Population of the United Stated, by Age, Sex, and Race: 1983 to 2080," Series P-25, No. 952, Middle Series, Government Printing Office, 1984.

Table 3

Noninstitutionalized Persons 60 Years and Over, By Race, Sex, and Level of Poverty in 1979: 1980--Continued

	AGE						AGE SUMMARIES					
PERCENT	60-64	65-69	70-74	75-79	80-84	85+	60+	65+	75+	80+	65-74	75-84
TOTAL MALE												
In families.................	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Below poverty.............	5.9	6.6	7.8	9.6	10.1	10.8	7.3	8.0	9.9	10.3	7.1	9.8
Below 125% poverty........	8.8	10.7	13.2	16.2	17.2	18.4	11.8	13.3	16.8	17.6	11.7	16.5
Living alone................	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Below poverty.............	21.5	20.9	23.3	25.5	24.5	26.7	23.1	23.6	25.4	25.4	22.0	25.1
Below 125% poverty........	29.2	33.3	37.1	40.1	41.0	44.3	36.0	37.9	41.3	42.4	35.1	40.5
TOTAL FEMALE												
In families.................	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Below poverty.............	7.3	7.5	8.5	9.3	8.6	8.1	7.9	8.2	8.8	8.4	7.9	9.0
Below 125% poverty........	11.1	12.3	14.1	15.4	14.6	14.0	12.8	13.7	14.9	14.3	13.1	15.1
Living alone................	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Below poverty.............	27.7	26.2	27.6	29.8	33.1	40.0	29.4	29.7	32.8	35.6	26.9	31.1
Below 125% poverty........	35.9	39.6	43.8	48.8	53.1	58.8	44.9	46.7	52.1	55.2	41.8	50.5
BLACK MALE												
In families.................	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Below poverty.............	16.4	19.8	23.0	25.7	26.1	28.1	20.6	22.7	26.3	26.9	21.1	25.8
Below 125% poverty........	23.2	28.9	34.5	38.3	38.7	41.0	30.1	33.6	38.9	39.6	31.2	38.4
Living alone................	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Below poverty.............	38.2	39.7	45.3	50.0	50.0	53.5	43.4	45.3	50.7	51.4	42.1	50.0
Below 125% poverty........	48.2	55.7	62.5	66.8	68.3	71.0	58.4	62.1	68.0	69.3	58.6	67.3
BLACK FEMALE												
In families.................	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Below poverty.............	22.6	23.6	24.9	25.5	24.3	22.9	23.7	24.3	24.6	23.7	24.1	25.1
Below 125% poverty........	31.1	34.1	36.4	37.1	36.3	35.6	34.1	35.5	36.5	36.0	35.0	36.8
Living alone................	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Below poverty.............	54.4	56.5	60.7	64.4	67.4	72.7	60.2	61.8	66.7	69.5	58.4	65.4
Below 125% poverty........	63.7	70.9	76.1	80.1	82.8	85.7	74.0	76.8	81.9	83.9	73.4	81.0

Source: Special Tabulations from the 1980 Census.

Table 4 . Median Net Worth, by Age of Householder and Monthly Household Income

(Excludes group quarters)

Monthly household income	Total	Less than 35 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and over: Total	65 to 69 years	70 to 74 years	75 years and over
All households (thousands)	86,790	25,730	17,383	12,596	12,920	18,151	5,668	5,014	7,468
Median income	$ 1,677	$ 1,596	$ 2,238	$ 2,381	$ 1,822	$ 1,021	$ 1,306	$ 1,022	$ 828
Median net worth	32,667	5,764	35,581	56,791	73,664	60,266	66,621	60,573	55,178
Excluding home equity	7,783	2,966	7,657	12,655	22,073	18,790	21,502	18,455	17,025
Net worth by income of—									
Less than $900:									
Households (thousands)	22,297	6,973	2,775	1,864	2,751	7,934	1,702	2,167	4,064
Median net worth	$ 5,080	$ 855	$ 2,147	$ 6,662	$ 23,587	$ 25,863	$ 23,257	$ 23,578	$ 28,986
Excluding home equity	1,388	626	683	889	2,470	3,727	2,468	3,488	4,634
$900 to $1,999:									
Households (thousands)	26,599	8,916	4,305	2,842	3,865	6,672	2,428	1,933	2,310
Median net worth	$ 24,647	$ 4,686	$16,533	$ 28,719	$ 60,232	$ 74,775	$ 68,509	$ 75,188	$ 80,044
Excluding home equity	6,329	2,531	3,690	5,281	14,983	29,849	22,412	27,718	41,343
$2,000 to $3,999:									
Households (thousands)	27,173	8,150	7,233	4,851	4,137	2,802	1,185	695	921
Median net worth	$ 46,744	$15,343	$44,421	$ 83,236	$ 88,454	$162,900	$151,450	$164,048	$175,949
Excluding home equity	11,437	6,851	9,428	13,144	30,482	80,327	73,618	81,060	97,146
$4,000 or more:									
Households (thousands)	10,720	1,891	3,081	3,039	2,166	743	354	217	172
Median net worth	$123,474	$44,424	$92,713	$138,981	$197,603	$344,518	$247,105	$410,252	(B)
Excluding home equity	44,860	18,158	32,607	45,740	88,437	212,710	156,751	268,515	(B)

B Base is less than 200,000.

Table 5. Distribution of Net Worth, by Age of Householder and Asset Type

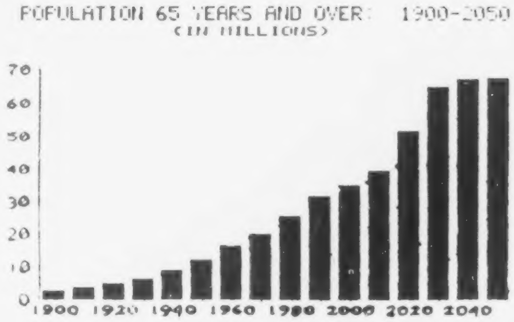
(Excludes group quarters)

Type of asset	Total	Less than 35 years	35 to 44 years	45 to 54 years	55 to 64 years	65 years and over
Total net worth	100.0	100.0	100.0	100.0	100.0	100.0
Interest-earning assets at financial institutions	14.4	11.6	8.3	9.3	13.4	24.8
Other interest earning assets	3.1	1.6	2.3	1.7	3.7	4.9
Checking accounts	0.6	1.2	0.7	0.8	0.4	0.6
Stocks and mutual fund shares	6.6	5.2	5.3	4.7	6.9	8.6
Own home	41.3	46.0	47.0	42.3	41.1	38.6
Rental property	9.0	5.3	7.8	11.0	10.9	8.2
Other real estate	4.4	4.5	4.9	5.1	5.2	3.0
Motor vehicles	6.0	16.6	7.4	6.0	4.8	3.4
Business or profession	10.3	17.4	14.1	18.0	7.9	4.5
U.S. saving bonds	0.5	0.3	0.2	0.4	0.6	0.8
IRA or KEOGH accounts	2.2	1.6	2.0	2.8	3.3	2.6

Source

U.S. Bureau of the Census, Current Population Reports, P-70, No. 7, Household Wealth and Asset Ownership: 1984.

Chart 1



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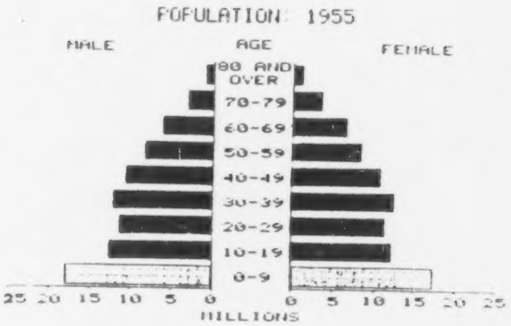

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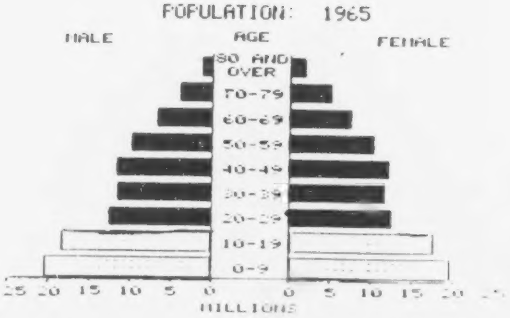

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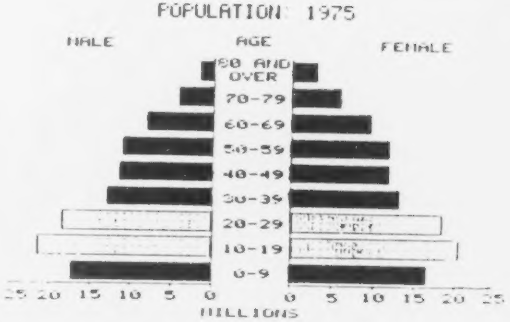

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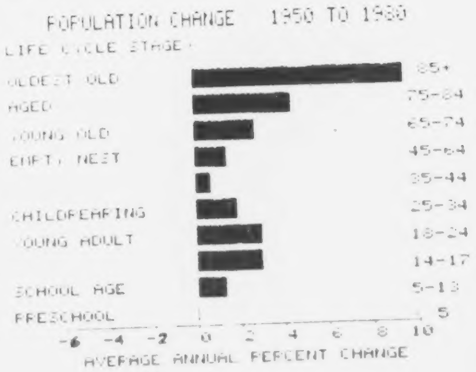

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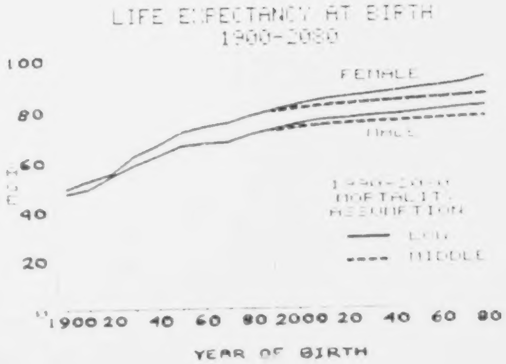

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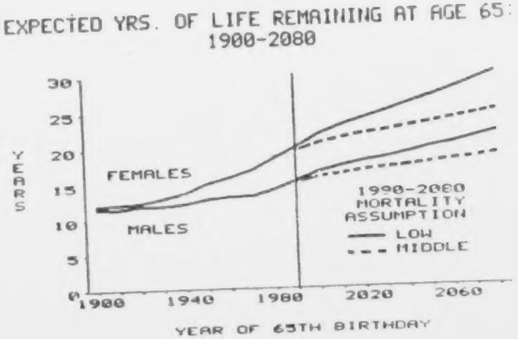

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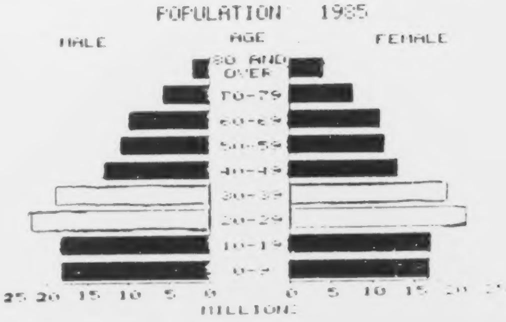

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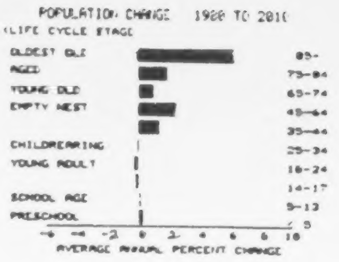

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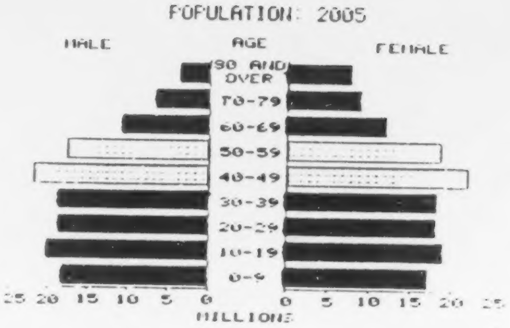

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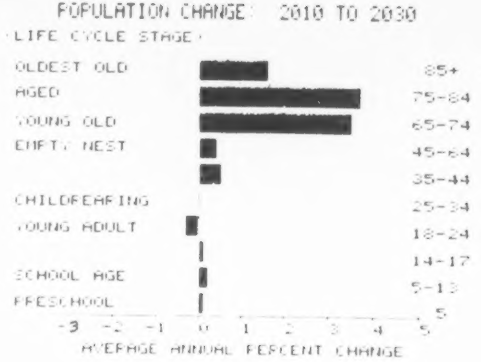

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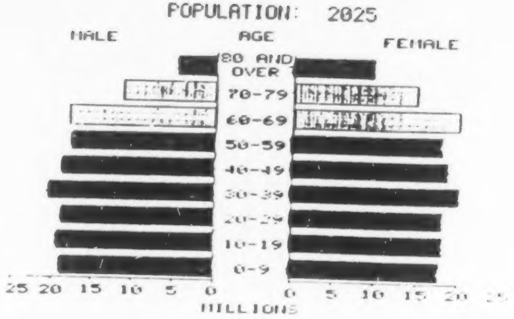

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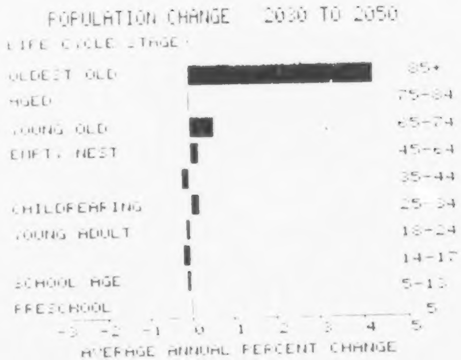
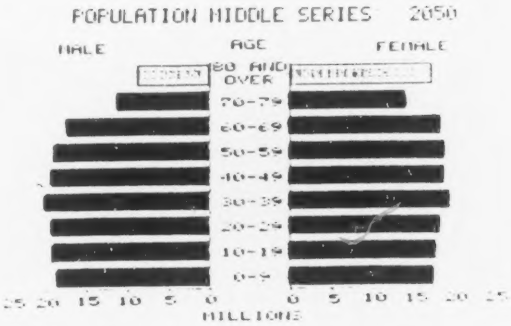


POPULATION CHANGE 2030 TO 2050

Chart 14



POPULATION MIDDLE SERIES 2050

Poverty Status in 1979

Chart 15

Elderly Females

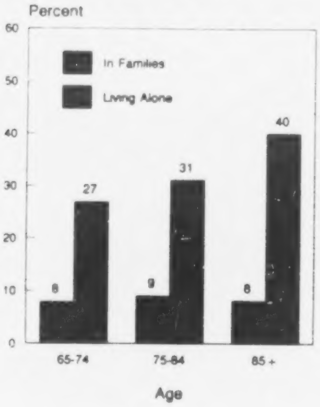


Chart 16

Elderly Males

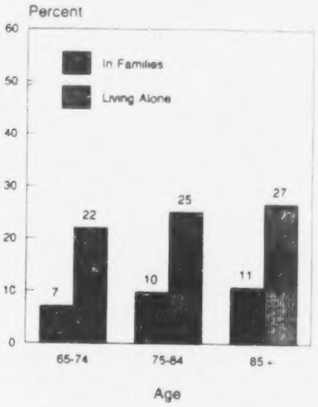


Chart 17

Persons 85 and Over

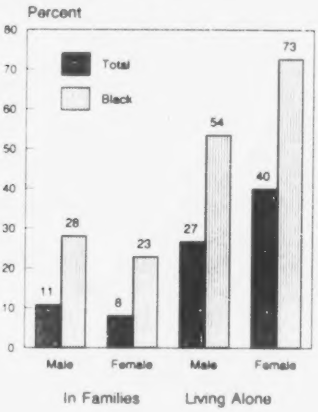
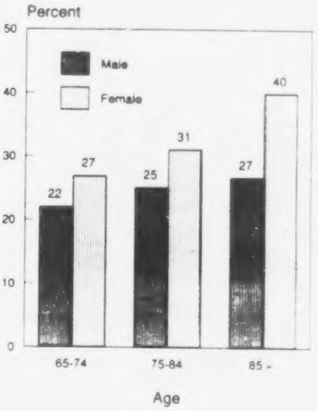


Chart 18

Elderly Living Alone



Representative Scheuer. Well, thank you very much for your very fine testimony, Mr. Keane. We are all impressed with the statistics that you gave and statistics Secretary Brock gave and the rapid expansion of the over-65 population.

Do you expect that to be a working population and, if so, how, and what impact will it have on the labor market? What does this mean for industry, business and government?

Mr. Keane. I expect the over-65 sector of the population to be more of a working population in both absolute and proportionate terms than that population is now.

Representative Scheuer. What impact is this going to have on the labor market?

Mr. Keane. That's probably a question more appropriate for the Department of Labor and for the Secretary. However, it would seem to me that it would mean that people would be in their job longer and that might cause readjustment on the part of those entering or at other phases of their work life cycle. Also it would seem to me that it has considerable implications for retrotraining and retraining.

Representative Scheuer. Are all these problems that the other Western democracies, developed countries, are facing to a greater or lesser extent? Are they typical or is there something unique about the future that we face? Is Western Europe, Japan, Australia, New Zealand, and Canada facing more or less these same problems?

Mr. Keane. A number of countries are facing similar challenges. Two countries, in particular, have a higher average age of their population. In Japan, a female born today has a life expectancy of 80 years. Sweden has a higher average life expectancy.

More or less with some likely definitive differences within them, they are facing age-related problems. One of the reasons we at the Census Bureau are particularly sensitive to the international trend is that some of them are going to face the problem quicker and on a broader scale than in the United States. Some have more cultural obstacles than this country, particularly Japan. Japan, with a controlling retirement age of 55. With a long life expectancy, this retirement age creates quite an interval. Also, it's built into the culture that the young shall take care of the old and that the ratio is falling disfavorably.

I'd like to ask Barbara Torrey for her international perspective if that's all right.

Representative Scheuer. Please, indeed.

Ms. Torrey. There are two countries in Europe that are considerably older than we are—Sweden and West Germany.

Representative Scheuer. Excuse me. There are two countries that what?

Ms. Torrey. Are considerably older than the United States is now, and they have a higher proportion of aged in their population. It means that we can learn a lot from these countries about how they are dealing with some of the same issues that we will have.

Representative Scheuer. How are they dealing with them? Tell us.

Ms. Torrey. They are both struggling. They have realized that their taxes are very high. They have a considerably higher percent of their GNP being devoted to retirement benefits and they are trying to figure ways out of that.

Representative **Scheuer**. I take it the younger people there don't like it very much.

Ms. **Torrey**. There is an issue about that. Sweden recently reduced their retirement age from 67 to 65; we've recently increased our retirement age beginning in the year 2000. Raising the retirement age is going to be an issue in those countries also.

The most interesting situation I think is in Japan where Japan is going to be aging faster than any other country in the world has ever aged.

Representative **Scheuer**. Because they're living longer?

Ms. **Torrey**. They're living longer and they had a baby boom in the 1930's when nobody else did. So in the next 15 years Japan is going to be aging very, very quickly. It's going to be interesting to see how they handle that, especially since they have a retirement age of 55.

Representative **Scheuer**. It will be an interesting laboratory for us to watch.

Ms. **Torrey**. Fascinating. Exactly.

Representative **Scheuer**. I take it they are very much aware of this now.

Ms. **Torrey**. They are very concerned about it. In fact, they are sending groups around the world trying to figure out how the rest of us have dealt with it.

Representative **Scheuer**. Well, they're very, very good at copying things other people have developed, but this time they're going to have to do some innovating for themselves.

Ms. **Torrey**. That's right.

Representative **Scheuer**. Maybe we'll have a chance to copy.

Ms. **Torrey**. That's right.

Representative **Scheuer**. Well, that's fascinating. Where are the elderly going to live? What are they going to do with their time? Does the fact that they have increasing educational levels and increasing incomes have implications for us? Are they going to be more mobile? Are they going to be moving around? How are they going to relate to the rest of society? Are these things that the Census Bureau is thinking about or are they outside of your purview?

Mr. **Keane**. Congressman, you have a way of asking a crate of questions at once. May we take those one at a time?

Representative **Scheuer**. Fine.

Mr. **Keane**. Where are they going to live? The highest proportion—that is the proportion of people in a State who are elderly—is in Florida, 18 percent. They're higher in a number of Midwestern States, too. They tend to be lower in Western States. The Midwestern States around 13 percent, lower in some of the Western States, only 10 percent versus a national average of 12 percent. So this likely depends too on the economic circumstances.

One of the things that I am trying to get the Census Bureau to devote more time to is to look at nondemographic variables in projecting demographic trends. An example of why this is necessary is to look at Houston, Texas where nondemographic events have very much impacted the demography of Harris County and Houston in a frighteningly short time. So we shall attempt to do that because this is an area of interest and most of the other areas are, too. Because those issues make demography. As the largest statistical agency we simply must, through our census and surveys, address the major aspects of our publication. This issue is as major as any there is.

Ms. **Taeuber**. I was just going to add that we have traditionally seen enclaves of older people in our inner cities. We can start expecting to see them in the suburbs of the country now as the suburbs are starting to "age" also. There's more variety in terms of the types of areas that older people are in.

Older people tend not to move. Only about 5 percent move in a year, which is a much lower proportion than in the rest of the population. It tends to be the younger old, and as we know, certainly there's a migration toward the Sun Belt into Florida and so forth. But we are starting to see movement into some of other Southern States, for instance Georgia and so forth, areas that are developing as retirement areas.

One of the other factors that may have an effect in the future is the changing occupation structure of the country. With an increase in the proportion who are in white collar occupations, professional occupations, you're creating a group who may have more of an incentive and more wish to continue working than we have had in the past.

Another thing that's happening in occupations, of the elderly black women who work today, two out of three are cleaning houses or public buildings. If you look at young black women, however, we have a very large proportion who are in clerical work, administrative work, also professional work. Those younger women are in occupations that are covered by social security and pension plans and health benefits and their lives as older women could be very different from that their grandmothers are today.

Representative **Scheuer**. Very much improved you mean?

Ms. **Taeuber**. Improved, because they have the opportunity to have benefits built up and assets built up and so forth that their grandmothers didn't have.

Representative **Scheuer**. And also I would think much wider opportunities for post retirement activities.

Ms. **Taeuber**. Exactly.

Representative **Scheuer**. And post retirement, perhaps part-time employment in all kinds of things, including the kinds of things that Secretary Brock was talking about—the literacy program and so forth.

Ms. **Taeuber**. The type of thing that he was talking about is very relevant to that issue. Two groups with very different types of potential activities because of what happens when people are young.

Representative **Scheuer**. Can any of you narrow our focus to New York City and tell us what the population and future holds for New York City in terms of race, ethnic diversity, in terms of income, in terms of education, in terms of job prospects? Give us a little thumbnail sketch of what the future holds for New York City.

Mr. **Keane**. You have more details, Cindy. Why don't you do that?

Ms. **Taeuber**. Okay. In the State of New York, certainly like in the rest of the country, the elderly population is diverse and it's not subject to generalization. The age, sex, race, and living arrangements, for example, indicate major variations in economic status.

In general, data from the decennial census showed that very old women and persons living alone were the most likely to have relatively low incomes or to be poor.

In New York State, the median income for elderly men was about $7,300, but just under $4,000 for women.

Representative **Scheuer**. How does that compare with the rest of the country or other major cities?

Ms. **Taeuber**. I'd have to give you that later.

Representative **Scheuer**. Okay.

Ms. **Taeuber**. In general, New York elderly were in somewhat better economic position than most of the other States. The oldest women were the most likely to be poor. About 6 percent, for example, of women in the 65- to 74-year-old range who lived in families were poor, but about one-third of women 85 and over who lived alone were poor. Now that one-third is a lower percentage than was found in the rest of the country.

Representative **Scheuer**. A lower percentage of elderly who were poor?

Ms. **Taeuber**. Yes. New York is in a better position relative to other States.

Representative **Scheuer**. How about the racial and ethnic composition of New York City looking ahead a generation or two?

Ms. **Taeuber**. We don't have projections on New York City. We have projections on the State, and Mr. Greg Spencer is here.

Representative **Scheuer**. Is Greg Spencer here? Come on up.

Ms. **Taeuber**. Can you talk on the State projections?

Mr. **Spencer**. In a word, no.

Representative **Scheuer**. I was wondering who all those nice people in the audience were. Now I realize they are all from the Bureau of the Census.

Ms. **Taeuber**. We brought the Census Bureau.

Mr. **Spencer**. My name is Greg Spencer. I work in the projections branch of the U.S. Census Bureau.

Unfortunately, I work on national population projections but I'm familiar with other work done in our branch.

Essentially, as is true in the rest of the country as a whole, we can expect to see increasing minority population in New York State. I really cannot be more specific. I would be happy to provide you with whatever information we have at a later time.

Representative **Scheuer**. What are the implications of that for New York State? I presume it's the same general trend for California, Texas, Florida. But let's use New York State as your symbol. What are the implications of that change for New York State?

Mr. **Spencer**. I wish I were prepared.

Representative **Scheuer**. You can submit something to us.

Mr. **Spencer**. I would much rather have time to work on it. Thank you.

Representative **Scheuer**. We can hold the record open.

Let me ask you about older folks, the elderly, as a political force—gray power. You've heard of gray power? Well, you can be sure I've heard of gray power. There are 535 Members of the Congress who have heard a lot about gray power.

Will there be a changing percentage, an increasing or decreasing percentage of the voting population made up of the elderly, and what will that mean for our national decisionmaking policy?

Mr. KEANE. There will be an increase from approximately one-fifth of the voting age population which is elderly now to about one-fourth by the year 2020.

Representative SCHEUER. From one-fifth to one-fourth. Well, that's not on the order of magnitude of the relationship, for example, of working people to the retired people. We heard from one in nine to one in three. That's an increase of the retired population to the working population of three times. This is one-twelfth or something like that.

Mr. KEANE. We should keep in mind, though, that's an increase in proportion of an increasing base. In other words, the population is increasing to the year 2020, so we're going from one-fifth of a population of 241 million today to whatever projection you choose for the year 2020. So while I agree with the order of magnitude, we're talking about many millions of voters here.

Representative SCHEUER. Yes, but in terms of the percentage of the voting public, the elderly people go from 20 percent to 25 percent over a period of—that was 2010 or 2020?

Mr. KEANE. 2010.

Representative SCHEUER. 2010, over 25 years, an increase of 5 percent of the voting population. That's not a terribly significant increase. So members of Congress can look forward to a gradually increasing political voice of the elderly, perhaps more important than the actual numbers or perhaps more important than the actual increase in the percentage of the voting public, will be the involvement and the organization.

Mr. KEANE. The propensity to vote.

Representative SCHEUER. Pardon?

Mr. KEANE. The propensity to vote is higher among the elderly population then among the rest of the voting-age population.

Representative SCHEUER. The propensity to vote and the propensity to make themselves felt and the propensity to come down here in the Halls of Congress and knock on doors and ask to see their Congressmen, which they have a clear constitutional right to do, have access to their Government. So that's probably a more important add-on than the increase in sheer percentage of 5 percent, from 20 to 25 percent of the voting public.

Well, we do have some other questions and I'm going to ask you, as I've asked Secretary Brock—we will get in touch with you and submit some more questions in writing, and if you would prepare something in the next week or 10 days we'll hold the record open for you.

We thank you very much for your very fine testimony.

Mr. KEANE. You're welcome, Congressman.

Representative SCHEUER. Now we will ask our panel three, composed of Professor Norman Ryder, faculty research associate, Office of Population Research, Princeton University; Ms. Wendy Baldwin, Chief of the Demographic and Behavioral Sciences Branch for the National Institute of Child Health and Human Development of the National Institutes of Health; and Mr. Harry Rosenberg, Chief, Mortality Statistics Branch, National Center for Health Statistics, Department of Health and Human Services.

Thank you all for coming. I would ask you all to address us for perhaps 7 or 8 minutes informally, alluding to anything you might have heard here this morning, and then I'm sure we will have some questions for you after that.

So we will take first Professor Norman Ryder.

STATEMENT OF NORMAN B. RYDER, FACULTY RESEARCH ASSOCIATE, OFFICE OF POPULATION RESEARCH, PRINCETON UNIVERSITY

Mr. **Ryder**. Thank you for asking me here today. The first thing I wanted to say concerned the appropriateness of a discussion of fertility at a conference on aging. And the reason is, that although it's often misunderstood, the principal cause of the aging of the American population is the decline in fertility. That's the principal cause of aging in Japan. It's the principal cause of aging in West Germany and in Sweden and the like.

There is a small component of aging that is caused by a greater length of life, but it is far outbalanced by the decline in fertility.

Accordingly, if we want to know about the future of aging in our country, we have to ask some questions about the future of fertility.

Now the outlook for fertility in the United States is something about which demographers ought to be very timid to speak because we have not had a good record in the past.

The problem is something like the following: if you go back to the beginning of the 19th century, the fertility level was estimated at about eight children per woman and it was on the way down all through the 19th century and well into the 20th century.

Representative **Scheuer**. Well, excuse me, probably mortality went down too, so the number of live births may—the number of people surviving to age 5 may have gone up?

Mr. **Ryder**. Yes, there was a——

Representative **Scheuer**. In other words, when you factor in decreased mortality, then what happened to the cohorts of 5-year-olds, let us say? Do you see what I mean?

Mr. **Ryder**. Well, the cohorts of 5-year-olds changed somewhat differently from the cohorts of newborns because the proportion surviving to age 5 did increase a little. But I stand by my earlier statement that demographically speaking the decline in fertility far outweighs the increase in survival.

Representative **Scheuer**. And it far outweighs the effects of any decrease in mortality?

Mr. **Ryder**. Infant mortality in fact is very similar to the obverse of fertility. If a child is born and dies a few minutes later, it's just as if the child hadn't been born at all. But those sad days are past us now and in a country with modern levels of mortality like ours, infant mortality is a very, very small proportion of the story.

Representative SCHEUER. I think the record should show that we're something like 16th or 17th in the world in infant mortality. We are by no means in the first dozen.

Mr. RYDER. That's true.

Representative SCHEUER. We still have a long way to go in bringing all segments of our population into the favorable experience on infant mortality that white middle-class Americans enjoy.

Our society has failed—and I'm not saying the medical profession has failed or I'm not pointing a finger, but as a society, we have failed to provide the prenatal and postnatal health counseling and health benefits to our low-income minority populations that would enable them to enjoy substantially the same experience on infant mortality that the middle-class white population enjoys. And I think that's a challenge in the years ahead.

Excuse me. Continue, Mr. Ryder.

Mr. RYDER. Well, the problem with the projection of fertility is that having acquired a large literature explaining why fertility had been declining, was still declining and would decline in the future, then fertility in the United States reversed itself.

The fertility level of those who were born early in the century had dropped down to something like 2.3 births per woman. Those were the ones hardest hit by the depression. At the height of the baby boom, the cohorts born in 1931 to 1935 ended up with an average well over 3 per woman. And that baby boom put egg on the faces of demographers throughout the country.

Since then, the fertility level in the United States has been dropping and it's been dropping very fast. It's gone down something like from 3.2 down to a current estimated 1.9 and that's in a span of about 20 years.

Representative SCHEUER. Is it still going down or is it leveling out at around 2 or 1.9?

Mr. RYDER. Well, I have just acquired some evidence in the form of the reproductive histories which were collected in the current population survey in June 1985, a comparable set was collected in 1980, and this makes it possible to compare how the women born in the late 1950's compare with their sisters who were born in the early 1950's. And the comparison is remarkably close.

Not only do they have the same numbers of children so far, but they have them in the same order. In other words, the same numbers of first births, second birth, third births, and they also have them according to exactly the same time pattern.

Now what makes this remarkable is that there has been such a dramatic change over the past 50 years of decline and then rise and then decline again, suddenly we have a situation in which it looks as if we have hit a low plateau, an asymptote. I emphasize that it's low.

Representative SCHEUER. After the plateau, a what?

Mr. RYDER. An asymptote. I'm sorry. It's a mathematical term which means sliding down toward a flat point and then ceasing to move again.

Representative SCHEUER. How so you spell that?

Mr. RYDER. A-s-y-m-p-t-o-t-e. Isn't that a neat word?

Representative SCHEUER. That's a truly nifty word.

Mr. RYDER. Now the important problem for a fertility analyst right now is to say, in answer to the question what happens to fertility next, because on that hinges all of the issues you've been talking about today.

If fertility goes up, you're going to have an entirely different population shape than if fertility stays the same or if it continues to decline.

In order to make a forecast, what we have to do is to come to terms with what happened in the baby boom. If we don't understand that, it may happen again. And accordingly, it's important for us to look back and say, what exactly did happen during that baby boom?

Let me spend just a minute or two on what I think happened in the baby boom.

In the first place, you have to get a notion of what it consisted of. Casual talk said a return of big families. It was not a return of big families. If you divide the baby boom up into two pieces, one piece would be the proportion of women who had a least two children, who reach the two child family level. That went up by nearly 50 percent.

If you ask the question, what's the average——

Representative SCHEUER. You mean from zero children or one child?

Mr. RYDER. No. I said the proportion of women who had——

Representative SCHEUER. You mean all women?

Mr. RYDER. All women. The proportion of all women who had at least two children increased by 47 percent.

If you ask the average number of children those women had, it went up by 4 percent.

In other words, it was not a return of the large family. It was actually an extension of the reproductive franchise to practically all women. It was an extraordinary event, but it was confined to the lower orders of childbearing.

Representative SCHEUER. What do you mean by the lower orders of childbearing?

Mr. RYDER. First births and second births.

Representative SCHEUER. I see. Do I get the picture right, that it simply redistributed more or less the same number of children to a much wider number of mothers. Only a 4 percent increase in numbers.

Mr. RYDER. Well, there was a genuine increase in fertility but the genuine increase was concentrated in small family sizes.

Now why did that happen? I think that we had a set of reproductive norms in our society which said that it was a very good thing to get married rather than remain unmarried, that it was a very good thing to be a parent rather than a nonparent, and it was a good thing to avoid having an only child. In other words, we had a very strong two-child norm in our society.

There's a proviso attached to such norms and that is, you've got to have the wherewithal to fulfill your parental responsibilities. I think in the immediate post-war period, there was an extremely propitious context for young people to see their way clear to have those babies that they could afford and that they wanted and that they wanted to have because that was how to be a good person.

Now there is another part to the story as well and that concerns this 4 percent factor I talked about, the increase in the average number of children to women who had at least two. That's dramatic only because it represented an interruption of a historic decline that had been going on for a hundred or a hundred and fifty years. Why did it stop declining during that period?

My own argument on that score takes the following form. In the first place, the increase was, in my judgment, entirely attributable to unintended fertility, unwanted births, births that women did not want but had nevertheless.

Why would that happen? Well, one thing is that the contraceptives that were available during the baby boom were all coitus related and therefore required a very high level of motivation in order to be effective.

During the depression you had all of the motivation you needed because it was the force of necessity that made contraception effective. During the baby boom, on the other hand, if a third child did come along it was no sweat. It wasn't a serious matter. You didn't get white knuckles about it. So it happened and you shrug a little bit.

So that we had not only a lot of women getting to the point of having two children and doing quite early, by the way, at a quite young age, but then facing this rather considerable challenge with these premodern contraceptives of avoiding any further pregnancies month after month, year after year. It's a very difficult task and you've got to have high motivation with premodern contraceptives.

Now there is another part to the story and that is that the labor market was particularly good in the immediate post-war period because the cohorts of that time were relatively small in number and the demand for labor was relatively high. And that has led to a theory, which I think ought to be at least stated, that fertility depends a lot on cohort size.

The reason that theory is worth talking about is because cohort size is going down. In the next 10 or 15 years, the numbers of people in the childbearing ages are going to be relatively few because of the drop in fertility. And if a small cohort means high fertility, then we can get ready for a rise in fertility.

I don't happen to put much stock in that theory. I think it needs to be mentioned for the record. A lot of people do believe in it. I think that the theory was based upon a very old-fashioned notion that if a man could get a good job, then a woman was ready to leave whatever she was doing, run into his arms and start having babies.

That may have been the case in years past. I don't think it's any longer the case. I think that the change in women's labor force participation has been sufficient to make that an irrelevant idea for the future.

Representative SCHEUER. Sufficient and probably permanent.

Mr. RYDER. And I think permanent. I don't think you turn the clock back on fundamental rights, no.

Now we also have, of course, modern contraceptives. The major ways of regulating fertility today are sterilization, oral contraception, abortion, and the intra-uterine device. Not a one of them is coitus related.

Representative SCHEUER. And there's another one coming along which is the first reversible contraceptive. It's called "Norplant." It's been developed by the Rockefeller Foundation. It's been tested for about 15 years around the world. It's just being approved if it hasn't already been approved by the FDA. And it's a contraceptive implant, sort of a nodule a few inches long that fits just below the skin, and it lasts for 5 or 6 years, is then replaceable, and it can be taken out any time during that 5 or 6 year period when, for example, an unmarried women gets married and wants to become pregnant.

So it's the first clearly reversible contraceptive that we've ever had and it's safe and sure and I think that will be almost a capstone of this development that you've spoken of, Mr. Ryder, in the last decade or two of the development of modern contraceptive technology.

The only real gap now in our armamentarium, as the professionals like to say—that's another great word that I'm contributing this morning—is a male contraceptive and we probably should have that and we will have that I think in the next decade or two. But certainly to the extent that some young women haven't found the right contraceptive options for them, this reversible, safe, sure, effective, reversible contraceptive long-term—5, 6, or 7 years—is going to offer a contraceptive option that is going to decrease the likelihood of unwanted pregnancies just as you say. Please continue.

Mr. RYDER. Well, just to conclude my points on what's going to happen to fertility, I can give you my best guess. And my best guess is that fertility—it's low now and it's going to stay low. I think that it is more likely to go further down than it is to go up. I think it is highly likely to show some swings back and forth. We should not expect it to slide into a lower asymptote and stay there but, rather, to wiggle around it, fluctuate around it.

And that does mean that the aging of the population as portrayed by the Bureau of the Census people is something we should take for real because the projections on which those were based were based on a continuation of low fertility, not quite as low as I expect but low enough to convey the message.

Now my major field of expertise is fertility, but I did want to add just one small observation with respect to the age structure because it seems to me important to keep something in perspective.

We tend to divide the world up into developed countries and developing countries. The developing countries have too many young people and the developed countries have too many old people. Somewhere we have to have a sense of proportion with respect to this.

With respect to the young and the old dependents combined, the labor force that we will have in the future is a relatively generous one compared to the one that we have had in the past.

Representative SCHEUER. Generous in what sense?

Mr. RYDER. Generous in size, in proportion of the total population. The people who produce the products that is necessary to look after the young dependents and the old dependents are going to be larger as a proportion of the total population in this future that we're moving into.

So that certainly there's a problem at one end, but we should think also about the somewhat smaller problem at the other end. It is part of the total picture.

The second thing I want to say is that that leads to a policy suggestion.

Representative SCHEUER. Excuse me. I don't quite understand that. I hate to keep interrupting you.

Mr. RYDER. That's all right.

Representative SCHEUER. But I thought that we were having a progressively smaller working force in relationship to the post-65 population.

Mr. RYDER. That is correct. But not in relationship to the post-65 plus the ones who are under labor force age. We're having fewer children along with the more old people. So as a proportion of the total population—I mean, when you take a person of age 40 who's in the work force, he not only has to pay taxes to look after the old folks, he's got to pay for his kids' schooling too. So the kind of responsibility that is heaped on the shoulders of the labor force is a responsibility that has both a young dimension and an old dimension too.

I just wanted to add that by looking at one tail of the system you can get a distorted view of the total picture.

Representative SCHEUER. In other words, you're saying the increase of the post-65 population, the sharp increase in relation to the working population, is somewhat ameliorated by the reduction in the zero to 21 population?

Mr. RYDER. Right. Somewhat ameliorated. So that leads to a policy suggestion. That is, instead of talking about a future aging population in which the problem is too many old people, why don't we say that the future problem is too few young people? If we have a small number of young people relative to the total population, maybe for the first time we can see our way clear to give them a decent education. If we're going to have fewer young people and, therefore, fewer fed into our labor force to generate the productivity to pay these bills, then let's treat them with the respect they deserve and balance their shortfall in quantity with an increase in their quality.

I happen to think that the U.S. educational system is an international disgrace. I say this with a little bit of perspective. I came from Canada originally to the United States. I taught in Canada in universities and then I came and taught in the United States. I was appalled at how little the American students actually knew. And I've had experience in Europe and in England and in other countries, and believe me, the U.S. educational system is shoddy and I think we now have an opportunity to fix it up.

Representative SCHEUER. Are you talking about our post-secondary education system or our elementary system where the essential learning in terms of literacy, reading, writing, and counting, takes place?

Mr. RYDER. Well, as a parent of children who went through an American school system, I would say the elementary schools are pretty bad, the high schools are even worse. At the university level, there are some very good universities and there are some other universities that are not so good.

Representative SCHEUER. Yes. Well, I don't know if you were here when Secretary Brock testified.

Mr. RYDER. Yes, I was here.

Representative SCHEUER. But you certainly are absolutely on target with what he said. The problem is compounded by the fact that poor minority kids are going to constitute a growing percentage I would think—correct me if I'm wrong—of the elementary and secondary school population. Certainly of the elementary school population. We hope they will constitute a growing percentage of the secondary school population. We urgently need them to graduate from high school and get some post-secondary skills, as he mentioned.

So our challenge is, how to make that elementary school experience really effective, how to help them connect with the education experience and thrive in it and participate and advance through elementary school, through secondary school, and into some kind of post-secondary education. That's the challenge as I see it and as I think you see it.

Mr. RYDER. Well, I have some further thoughts but they're in the statement.

[The prepared statement of Mr. Ryder follows:]

PREPARED STATEMENT OF NORMAN B. RYDER

This statement takes the form of responses to a series of questions addressed to me in a letter of July 10 from Congressman James Scheuer.

The first question concerns the outlook for fertility in the United States. The best measure of fertility is the cohort total fertility rate. It is the mean number of births per woman throughout a reproductive lifetime. For women in the late eighteenth century, that value was probably close to eight. The earliest precise observation is 4.0 births per woman for those born in the late 1860s. A good estimate of its current value is 1.9. Not only is this a historic low, but it is ten percent below what would be required for long-term replacement of the population.

Will fertility continue to decline or not? The difficulty in giving an answer is illustrated by the fact that those women born in 1906-10 had only 2.3 births each, whereas, one generation later, those born in 1931-35 had 3.2 births each. That was of course the baby boom. To forecast with any confidence, we must understand what happened then, and whether it is likely to recur.

It helps to distinguish two components of the baby boom: the proportion of women who have at least two children ; and the mean number of children for those with at least two. The former value increased by 47 percent during the baby boom. The norms prevalent during that era supported the propriety of marriage rather than nonmarriage, parenthood rather than nonparenthood, and two children rather than an only child, with the important proviso that the couple have the wherewithal to fulfil their parental responsibilities. Circumstances after World War II were especially propitious for living up to these norms. Economic growth stimulated the demand for labor, while smaller cohort size restricted the supply of labor. Governmental intervention transferred resources from nonparents to parents, and from the more to the less advantaged, particularly by raising the income floor. In brief, the proportion of couples with income sufficient to meet the prevailing standards of parental obligation increased substantially between the 1930s and the 1950s.

The second component of the baby boom,the average number of children born to those with at least two, increased by only 4 percent, but that too deserves explanation because it was an interruption of a long and strong downward trend. Most and perhaps all of that reversal has been determined to consist of unintended fertility. One reason for deterioration in the ability to prevent unintended fertility, during the baby boom, was earlier family formation, which meant longer years of explosure to risk. The mean age at which women had their second birth declined from more than 27 to less than 25, prolonging the subsequent task of prevention. A second, and larger reason for deterioration was that, prior to the introduction of modern contraceptives in the 1960s, successful fertility regulation required strong motivation, because all of the available methods were coitus-related. During the 1930s, income was relatively low, and thus motivation was spurred by the force of necessity, whereas during the 1950s, there was less apprehension that an unintended birth would reduce family fortunes below an acceptable scale of living.

There is very little likelihood of repetition of that scenario in the future. With respect to the norms governing marriage and reproduction, women are rapidly gaining legitimacy in their pursuit of callings other than motherhood ; those new goals are more attractive the more nearly equal are women's educational and occupational opportunities. This is probably the principal explanation for the substantial decline in the last two decades in the proportion of women having at least two children ; the trend seems quite unlikely to be reversed. There is pending a decline in cohort size, as an echo of the recent decline in fertility. Although that did in the postwar era stimulate an early commitment to motherhood, it is unlikely to have the same effect this time. Not only is the pace of economic growth, and therefore the demand for labor, likely to be less rapid than in the postwar, but also the employment opportunities are enlarged for women as well as for men. Finally, modern contraceptives, such as sterilization, oral contraception and the intra-uterine device, have reduced the level of motivation required for a given level of efficacy, because all of them are independent of coitus.

The most recent sophisticated data set on the subject are the reproductive histories collected in the Current Population Surveys of June 1980 and June 1985. One can make confident comparisons of the performance of somewhat older and somewhat younger cohorts (up to the same age) only if the time patterns of fertility are the same. These data show that the cohorts of the late 1950s are following the same reproductive pattern as those of the early 1950s, not only in the level of fertility, parity by parity, but also in the time pattern of that accomplishment. In brief, the most recent decline in fertility (which reduced the cohort total fertility rate from 3.2 to 1.9 in two decades) has apparently come to a halt, albeit at a low level.

My best guess is that fertility is likely to remain near the present sub-replacement level, over the long run, although there may be short-term deviations in either direction. That fertility will reverse its course and rise in the next generation seems quite unlikely to me.

The second question concerns the likely change in the age structure of the population as we move into the twenty-first century. The principal source of change in the age structure of any population is the varying numbers of births over time. If, as throughout most of our history, the numbers of births rise steadily from decade to decade, the resultant age distribution is young -- because those in the younger ages (from the more recent birth cohorts) are more numerous than those in the older ages (from the more distant birth cohorts). Setting aside for the moment the peculiar aberration of the baby boom, we are rapidly moving out of that phase of our demographic history. Successive cohorts of births are now similar in size ; in consequence, we are gradually and ineluctably losing the youthfulness associated with rising numbers of births. The population, on average, is growing older, and will continue to do so through the next century.

As for the baby boom, its overt manifestation was that those born in the two decades following the end of WWII were almost twice as large as their predecessors in number, and somewhat larger than their successors as well. The baby boom has created a bulge which will move up through the age structure, modifying discontinuously the general aging trend. As a specific example, there will be a sharp discontinuous increase some forty years from now in those reaching age 65 and becoming eligible for social security, but subsequent to that, the addenda will be substantially smaller.

The course of fertility is the dominant force in population aging, but there is a (much smaller) contribution made by individual aging, i.e., by increased survival. The pattern of evolution of mortality is such that there are likely to be more substantial increases in survivorship in the ages above 60 than in those below 60, simply because there is by now little room for improvement in the latter. This will somewhat exacerbate the patterns already indicated.

The best guide for analyses of this sort is a responsible population projection, for example that produced by the Bureau of the Census on the assumption of a continuation of low fertility. A competent account, written by Cynthia Taeuber, has been provided in "America in Transition: An Aging Society," Current Population Reports, Special Studies Series P-23, No. 128, published by the Bureau of the Census, 1983.

As for the possible economic and social consequences of an aging population, this is a complex subject on which it is difficult to be both wise and brief. One preliminary point needs emphasis because it is often overlooked: the proportion of the population which is in the working ages will be somewhat larger in the probable future than it has been in the past. True, there will be more old people, but the quid pro quo is that there will be fewer young dependents. The working population is the source of excess product to meet the needs of both the young and the old, and it will be a larger proportion of the total population.

Admittedly that working population will be older on average than in the past, but it is unclear what that may mean for productivity. What has plagued research in this area is that the older person is at the same time a person who was born a longer time ago. We are necessarily in danger of confusing what happens ineluctably, as a consequence of biological aging, with the effects of being born in an earlier time, with fewer years of education, and that rapidly growing out-of-date. The distinction is important because the latter is remediable. For example we may devise extensions to the educational process throughout the life span, perhaps as an institutionalized adjunct to the work week, or as a routinized sabbatical renovation.

Calculations such as the mean age of the working population are feasible only by making arbitrary assumptions about age at entry into and exit from the labor force. This statistical discrimination on the basis of age is paralleled in the economic and social spheres. There is an irony here. Our society is dedicated to achievement rather than ascription. Those characteristics of an individual which are assigned at birth, such as race, ethnic group or social class, or gender are contrary to principles of opportunity for a person to achieve individually rather than be assigned categorically. The one exception to this is age, a piece of information assigned to us at birth. It is quite evident from casual observation, and can be demonstrated readily from a statistical standpoint, that there is a very large variance in all characteristics of those who are, say, age 65. Treatment of individuals on the basis of age, i.e., categorically, as if they were pretty much the same, convenient though it may be from a bureaucratic standpoint, makes little sense. Beyond that, the injustice is compounded because, as is well-known in other areas of discrimination, people are inclined to do what they are expected to do.

There is a demographic problem associated with an aging population, of considerable relevance to productivity in the aggregate, which deserves an account because it is little-recognized. Change in the aggregate demand for labor, induced by technological change, and requiring modification of the distribution by roles of the existing labor force, can be accomplished either by "mutation", i.e., changes in occupation by particular individuals, or by "metabolism", the movement of entrants into the labor force and of old members of the labor force out. Historically the latter has played a much more important role in technological transformation than the former.

The relevance of this distinction is that the population structure toward which we are inexorably moving is one in which there will be substantially less "metabolism" than in the past, especially because of a much lower rate of entry into the labor force. The latter circumstance is important because there is substantial opportunity with the new entrants for modifying the processes of selection and socialization, whereas the separation process for those exiting from the labor force is much more random with respect to worker qualifications. Because the flexibility of our technological and economic system will depend much more on "mutation" than in the past, we need to pay much greater attention to the possibilities of retraining ; because the rate of entry into the labor force will be problematically low, we need to achieve much more efficiency in the processes of selection and socialization and role allocation.

The next question is which racial and ethnic groups will have increased fertility rates and which will have decreased fertility rates. I know of no such groups for which the expectation would be increased fertility. The historical experience in the United States has been one of convergence toward a common low level of fertility. The best-documented cases are those of nonwhites vis-à-vis whites, and of Catholics vis-à-vis non-Catholics.

There is a persistent temptation in model-construction to isolate statistically the members of one or another racial or ethnic group, and treat them as an autonomous subpopulation for projection purposes, as if their future reproductivity were independent of the society which provides their environment. The exercise is futile, and worse, divisive. Fertility is not hereditary -- it is a product of culture. The history of assimilation in the United States provides sufficient argument for avoiding such simple-minded constructions.

American statistics on the fertility of different ethnic groups, other than the aforementioned broad characterizations by color and religion, are inadequate. In countries like Canada, with a richer data base, the consensus is that immigrants of various ethnic groups tend to have fertility similar too and often less than that of the receiving population. The popular impression to the contrary may reflect the circumstance that immigrants tend to be concentrated in the childbearing ages.

The next question is whether fertility in the United States will decline to levels prevalent in Western Europe. This has already happened. Sub-replacement is a characteristic of the fertility level in every completely modernized country.

Finally I have been asked to comment generally about public policy relevant to the topic. First a note about population policies. Those who are concerned with the implications of a negative growth rate, and an older age structure, are often inclined toward a demographic remedy. Whatever problems there may be would be resolved if fertility were higher. Yet the experience with policies of transfer payments to parents, even with quite generous provisions, is that the effect on long-term fertility is nugatory, although occasionally effective in the very short term.

Policies which reduced the access of the population to effective modes of fertility regulation would also raise fertility in the short term, but the demand for reproductive freedom is sufficiently strong that the long-term effect would likely be negligible. Moreover, such a policy would, in my opinion, be a long step backward in our efforts to protect fundamental rights.

Inadequate fertility in the population can be compensated with a moderate increase in net immigration. Among the low-fertility countries of the world, the United States is doubly advantaged with respect to this option: our country is very attractive to prospective immigrants, and we have centuries of experience in the absorption of immigrants to the considerable benefit of the population aggregate.

Much more attractive than a demographic fix, in my opinion, is serious consideration of the possibilities for institutional adaptation and innovation in response to the completely new shape of the population. This is a challenging task because it is unprecedented in world history, but it need not be threatening, provided we set about the rethinking of our attitudes toward age.

I think it would be well to recast the problem of the aging of the population of the United States not as a problem of too many old people but rather as a problem of too few young people. In the twenty-first century, lower fertility will mean a much smaller proportion of the population in the younger ages. This represents a great opportunity to succeed in the task of giving them a good education, so that they will compensate in quality for the shortfall in quantity. As for the older end of the age continuum, our success in coping with whatever problems that represents will depend primarily on the extent to which we can abandon the uncharacteristic stance of ascription of status on the basis of the number of calendar years elapsed since birth.

Representative SCHEUER. Okay. Well, your statement has been very, very provocative and I'm sorry I kept interrupting you and I apologize for that.

Ms. Baldwin, please take the 10 or 12 minutes, liberally construed, that Mr. Ryder took with a generous assist from me.

Mr. RYDER. You had half of those minutes.

Representative SCHEUER. I said, with a generous assist from me, and I apologize again. I'll try and control myself.

STATEMENT OF WENDY H. BALDWIN, CHIEF, DEMOGRAPHIC AND BEHAVIORAL SCIENCES BRANCH, CENTER FOR POPULATION RESEARCH, NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT, NATIONAL INSTITUTES OF HEALTH

Ms. BALDWIN. Thank you, Congressman. I'm Wendy Baldwin of the National Institutes of Health and it's a pleasure to talk to you today and about one piece of this problem—the adolescent childbearing issue.

We have already heard a lot about the baby boom and it's essential to understand the baby boom to understand what happened with teenagers in the 1970's and what's happening now.

During the 1970's, we had a vastly increased number of teenagers, 43 percent more than we had in the preceding decade. So despite the fact that the birth rate was going down for teenagers, because there were so many of them, the number of births barely declined at all. In fact, the proportion of births that were to teenagers actually went up during that time period.

If you stop just there, you could think that the whole attention to teenage childbearing was some sort of a demographic artifact, which it wasn't. You have to look beneath that overall number to see what was going on that made it interesting and important.

Two things: the age of the mother, that women who were bearing children as teenagers were younger teenagers than they had been in the past; and marital status. They were much more likely to be unmarried mothers.

Unmarried mothers are more likely to have inadequate prenatal care. We all know what the burden of that brings. And they are more likely to, at least in the short run, require some kind of public support.

I tried to minimize the numbers. If I put the two of them together, I think it really kind of brings this into focus.

In 1960, there were about 600,000 births to teenagers, but 62 percent of them were to married 18- and 19-year-olds, and they're not really the women we're talking about when we talk about a teenage pregnancy problem.

In 1984, there were fewer than 500,000 births to teenagers. That's a significant drop. But only 33 percent of them were to married 18- and 19-year-olds.

Representative SCHEUER. So, forgive me for not being able to do the math in my head. What was the comparison between births to unmarried teenagers then to now?

Ms. BALDWIN. Unmarried teenagers or like a married 17-year-old—the group that we're really most worried about—it actually increased in number over the time period from 220,000 to 320,000. The likelihood that——

Representative **Scheuer**. 220,000?

Ms. **Baldwin**. In 1960, there were 224,000 and now it's up to 322,000 of the teen childbearers who are either under 18 or unmarried.

Representative **Scheuer**. That's almost a 50 percent increase.

Ms. **Baldwin**. It's a tremendous change.

Representative **Scheuer**. Are most of them minority young girls?

Ms. **Baldwin**. No. The rates are much higher for blacks than for whites, but of course there are more white. This is not a problem that you can categorize as being one group's problem. It really isn't.

Representative **Scheuer**. That's heartening.

Ms. **Baldwin**. Well, yes. We don't have good data on Hispanics because the data systems have not really been able to provide us with enough cases to do that work. We're trying to improve that.

That's really where the kind of changing composition of who are these teen childbearers—it's really changed dramatically from 1960 to the present time.

When we look at these trends, obviously we can track the births and we can track abortions pretty well. We can estimate miscarriages. But in order to make sense of these trends we have to look at the proportion of these kids who are sexually active. The sexually active ones obviously are the ones that get pregnant and there have been tremendous changes over time and there's a lot of change by age.

We started tracking this in the early 1970's and when we did that we found 28 percent of never-married women in their teens reported that they were sexually active.

Representative **Scheuer**. In all age groups?

Ms. **Baldwin**. 15 to 19.

Representative **Scheuer**. In their teens?

Ms. **Baldwin**. Yes. If you look at women 15 to 19, 28 percent of the never-married women were sexually active.

Representative **Scheuer**. In the 1970's?

Ms. **Baldwin**. Yes, that's 1971. We looked at it in 1982 and it was up to 43 percent, which is a significant increase but it's actually a turndown from the rates we had seen in the late 1970's. So certainly for blacks—it's not so clear for whites—but certainly for blacks, the proportion of sexually active has started to decrease.

So we're a little surprised. We weren't quite expecting to see the turndown this quickly, but there is some encouraging news in there, that the rates are not just continuing to go up.

Representative **Scheuer**. Is it true in that connection that over half of all black births in this country are out of wedlock?

Ms. **Baldwin**. Yes.

Representative **Scheuer**. Do you want to amplify on that, the significance of that, why that is, and what that means to us?

Ms. **Baldwin**. Well, there are tremendous black-white differences in the area of adolescent behavior and in family structure, patterns of marriage, patterns of childbearing. But they're more complicated than just a handful of statistics would make them seem perhaps.

For example, while there's a higher proportion of the black teenagers who are sexually active than white teenagers, the rate is going down for blacks but it's not going down yet for whites.

Representative **Scheuer**. So you think those two lines will meet pretty soon?

Mr. **Ryder**. Not pretty soon, but they are definitely moving in different directions. That's why I've not emphasized black-white differences, although I find them very important, because they are very, very complex.

Out-of-wedlock birth rates are much higher for blacks than for whites, but they've been going up for whites. They've not been going up for blacks; they've been going down.

So I think we can debate whether whites are becoming more like blacks or blacks are becoming more like whites, but I think it's important.

Representative **Scheuer**. I should think it's the latter.

Mr. **Ryder**. We just did some runs actually just yesterday that are making us question areas where some of each is happening, but it's extremely complex.

Representative **Scheuer**. According to the recent report, the Gutmacher Institute report, rates of teenage sexual activity around the world are quite similar and the degree to which there are differences in rates of out-of-wedlock teenage pregnancy depends not on differences in sexual activity but difference in how societies cope with what seems to be a more or less inexorable rate of teenage sexual activity. And countries like Scandinavia and Holland I guess have the lowest rate of out-of-wedlock pregnancy, where family life education is taught in the schools and where the subject is not taboo and surrounded by all kinds of taboos, cultural taboos, where parents are involved, where schools and the churches and the community is involved, out-of-wedlock pregnancies are very much lower than the United States.

I think we have per thousand teenage women something like 90 or 95 out-of-wedlock pregnancies every year. And in Holland, it's 14; and in France and Germany it's 30 or 35; and as I say, we're up to 90—six or seven times the rate in Holland. And I suppose that is a reflection of the fact that young women want to control their fertility, are given the incentives to control their fertility, and the means to do it—the education, the sort of school and family environment and the services—family planning services.

Does that reflect your understanding of the situation?

Ms. **Baldwin**. Well, the Alan Gutmacher Institute report is very valuable because it provides the kind of international comparison, just as we heard on the aging side of it. It's very important to look at other countries that are facing similar problems and seeing what they're doing. It doesn't mean it's the only way to deal with the problem, but in fact we can look at countries that have comparable rates of sexual activity and have dealt with it differently.

We might not decide that we wanted to follow these patterns but in fact we have other sorts of laboratories to look at. You cannot do that kind of controlled social experiment within one country and one of the ways you compensate for that scientifically is you go and you look at other countries that have experienced similar problems.

You could pick other countries and find rates of sexual activity that are higher or lower than the United States. There are many ways to look at comparative data, but it's very, very valuable. And in that particular study, it shows us countries that have many similarities to the United States and who have dealt with the problem in a different way. It's very instructive.

Representative SCHEUER. When you tell us that rates of black teenage out-of-wedlock pregnancies are falling, is that because of a reduced rate of sexual activity or an enhanced ability of young black teenage women to control their fertility through the use of family planning?

Ms. BALDWIN. Well, the declines—to the extent there are any declines in sexual activity, it's far too recent to explain that. The picture on contraception is complex, partly because contraception is not sort of one event. It's an ongoing process, ongoing activity, so you can do it well one day and not do it well the next day, which is what happens.

And in fact, there's a lot of evidence that teens want to control their fertility. They don't always do a perfect job of it but, as Mr. Ryder has already shown us, neither do older married women necessarily do a perfect job of it.

There's a lot of evidence that teenagers are trying to control their fertility. When we look at pregnancy rates, pregnancy rates are down a little over the past decade and the pregnancy rate only goes down because of contraceptive improvements. When we look at different measures of contraceptive behavior—you asked—there are a lot of ways you can ask the question. You can say, "Have you ever used a contraceptive," if a woman is sexually active, and that's gone down tremendously. Five or 8 years ago about 36 percent of teens said, "No. they had never used a method." And now it's down to about 15 percent. That's a big improvement.

We see many areas of improvement but there are still big areas where teens are not managing to control their fertility, especially the youngest teens.

Representative SCHEUER. How young are the youngest teens?

Ms. BALDWIN. Well, most of the data sets go down to age 15 for collecting data. There are about 10,000 births to women under the age of 15, about 80 percent of them are to 14-year-olds.

So the problem probably starts below 15, but more of the statistics don't. There'a a lot left to do in the area of contraception. That's clear.

Representative SCHEUER. What's left to do?

Ms. BALDWIN. Well, we know that teens delay coming to services, to family planning services, and we know that especially young teens run a very high risk of becoming pregnant shortly after they begin sexual activity. Twenty percent of women who are under 15 when they first had sex, 20 percent become pregnant within the first 6 months. That's very quickly and frankly it happens faster than the teenager is able to deal with this new problem that they're facing of how they're going to control their fertility once they're having sex, and I don't think we've dealt with that very well. I think that requires a very complex approach, probably through parents and through schools, maybe through the media as well.

Representative SCHEUER. Have you done any analysis of the success of schools that are beginning to provide contraceptive services? We've all seen stories on television of the school in Chicago that is providing contraceptive services now to its young people. Have you done any analysis of that in schools across the country and how that has been accepted by the kids, the parents, the community, and whether that's sort of a model that we should be thinking about seriously of expanding?

Ms. BALDWIN. Well, we haven't done any research expressly on that, although I've looked at some of those programs and some of the data about them, and clearly there are some real success stories there.

There are programs in schools or associated with schools that have been able to reach teens and have high continuation rates on contraception and high school continuation and low repeat pregnancies. So there are some very——

Representative SCHEUER. When you say high school continuation, you mean a reduced rate of school dropouts?

Ms. BALDWIN. Yes.

Representative SCHEUER. And you can tell us what the attitudes of the parents have been, how they have accepted this, and what the attitudes of the community has been where this kind of service has been started? These are all very important to Members of Congress, for example, in thinking about funding these programs. We want to know how they will be accepted by the schools, by the parents—not only by the kids but by their parents and by the surrounding community, the society in which that school is centered.

Ms. BALDWIN. To the best of my knowledge, all of those programs require some kind of a parental consent that the child have access to the services. That's my recollection, but I would have to check that to be sure. But I know that most of them do. If they all do, I'm not sure.

The successful programs I think have worked very closely with their communities to ensure that it is going to be accepted in the community. That really has to be done.

There is one caution that I would like to offer and we face the same thing when we talk about a new contraceptive. There's always an excitement because here is a contraceptive that going to fill a need and it has many appealing features and as true as that is, that doesn't make it the contraceptive for everyone. And I think the same thing holds true for the delivery systems we're seeing for teenagers.

A school-based clinic in certain communities, for certain groups, may be excellent, but what are you going to do with dropouts who aren't in that school? They're a very high-risk group. When we do studies——

Representative SCHEUER. Dropouts are a high risk?

Ms. BALDWIN. They're a high-risk group. When we do studies of the effects of teen childbearing on the children, the children born to dropouts sort of do worse. So there's a very high risk.

Representative SCHEUER. Excuse me. Would you elaborate on that?

Ms. BALDWIN. Sure. I have a whole piece about the consequences of teen childbearing, but——

Representative SCHEUER. I wonder if you would be willing to submit that for the record?

Ms. BALDWIN. Sure.

Representative SCHEUER. But elaborate on it now for just a moment.

Ms. BALDWIN. We look at the children of teen childbearers for several reasons. Obviously that's one of the real impacts of teen childbearing is what it does to the kids.

Representative SCHEUER. When you say teen childbearing, you mean unmarried teen childbearing—teen childbearing out of wedlock? You're not talking about 19-year-old married women.

Ms. BALDWIN. No. But the rates of marriage for teenagers are going down so quickly that many of the studies have tried to look at marital status and age separately, but age has the big effect. Age really drives these relationships. And the relationships basically are that the women who have children while teenagers have more children and they get less education. So the children may grow up in families where there are more kids and where they have a parent or parents with less education. They have lower incomes and they are more likely to be on welfare. And this is a constellation of factors that frankly just isn't good for children. They run higher risks in many areas and one of them is their own school performance.

An interesting new study that's just been finished——

Representative SCHEUER. The school performance of the kids?

Ms. BALDWIN. Of their children. This is the next generation we've all been talking about, the ones who are going to support the rest of us.

Their educational performance suffers. They score higher on behavioral problem indexes. As they move through the elementary school years, you don't see fewer problems as they move through the school years, you see more problems as they move through the school years, and they come out in basically two areas. They come out in the kind of educational performance and aptitude achievement testing and they come out in the area of behavioral problems.

Interestingly, they don't come out in the area of sort of psychological malaise of the children. It's not depression. We're not picking up depression in the children or whatever, but we are picking up acting out, we're picking up reduced educational ability. These are the future generations where we're worrying about their functional literacy.

And being born of a teen parent is a risk condition. Being born of a teen parent who has dropped out already—and we're estimating that about 25 percent of the teen mothers have already dropped out of school when they become pregnant—that's an even greater risk condition.

This is my only sort of caution about school-based programs. I'm not sure how they're going to reach that dropout population. That doesn't mean we shouldn't have school-based programs, but I think we want to think more broadly about who are the teens that we want to reach and who need care and whether we're putting together some kind of overall package that reaches all of those who are at risk.

Representative SCHEUER. Either an overall package or a complementary package to reach them.

Ms. BALDWIN. Certainly. I guess what I want to say is there's no magic bullet. There's no one program. There's no one contraceptive. There's no one approach that really is going to work.

Representative SCHEUER. So what you're saying is extremely important for society: (a) to take herculean steps and make herculean efforts to reduce the rate of dropouts for both boys and girls; and (b) to track the boys and girls who do drop out to make sure, if it's humanly possible within the constraints of a free society—to make sure that they have made available to them family planning education or family planning services, and to make every possible effort to get them into some kind of literacy training.

Because what you're saying is that the problem of a school dropout that produces a pregnancy and an infant is a long-term problem for American society going into the next generation and the one after that and the one after that, and we're setting into effect a chain reaction of almost incalculable dimensions.

Ms. BALDWIN. Not only that, but——

Representative SCHEUER. Is that overstating it?

Ms. BALDWIN. No. I was going to add to it actually. The children who are born to—let me rephrase this. If a parent initiated sexual activity when he or she was young, the child is at great risk of initiating sexual activity at a young age. So increasingly, the cohorts of preteens and early teens are going to have been born to parents who were early initiators.

I think we have to think very carefully about the kind of long-term, built-in momentum of the teen childbearing problem.

Representative SCHEUER. What produces that cause and effect relationship?

Ms. BALDWIN. We're not sure. We are not sure. It is not strictly the economic conditions and family structure, although economic conditions, being in a single parent household, these are all risk conditions for early initiation, but it is separate and above that. And we don't know that it's in some way how values and norms are being transmitted within the family or control over the child's behavior—that's one of the effects of the age of the mother on the child are indirect. When you look and you say what's the effect of being a teenage mother, most of that is funneled through social and economic characteristics. She has less education and there's less income available and this sets the stage for the kind of environment in which the child is raised.

But this latest study that looks at dropouts and the children's behavior is showing some of that still has an independent effect of age of mother which could mean that it's a style of parenting or an ability to control problem behavior in children and this is the first time we've really seen much of any kind of direct effect of just age as opposed to age as it works through the mother's education and family size. They are the two big conduits.

The teen mother has less education and she has more children and that increased family size and her lowered education are the real conduits for the negativist things that happen both to her and to her children in subsequent years, including welfare dependence.

I think I've covered most of my material. I have one concluding thought which is we're on the downward slope of the baby boom. We have a breather right now. We have a smaller number of teenagers right now and we will for the next 5 years until it starts to move up again.

And I think possibly we are at a point where we could take and learn from the work we've been doing for the past 10 years and maybe deal with this problem when in terms of its absolute size it's a little more tractible before the number of teens start going up again. Thank you very much.

[The prepared statement of Ms. Baldwin, together with an attachment, follows:]

PREPARED STATEMENT OF WENDY H. BALDWIN

Mr. Scheuer and Members of the Subcommittee:

I am Dr. Wendy Baldwin, Chief of the Demographic and Behavioral Sciences Branch, Center for Population Research, National Institute of Child Health and Human Development, National Institutes of Health.

I appreciate this opportunity to testify before the Subcommittee on Economic Resources, Competitiveness, and Security Economics of the Joint Economic Committee on the trends and consequences of adolescent fertility behavior in the United States.

Trends in Adolescent Fertility Behavior

To put early childbearing into perspective, it is important to understand the post World War II baby boom. This was not a temporary phenomenon--an explosion that was quickly over--but rather a rise in the birth rate that lasted into the early sixties. The aging of the baby boom babies meant that during the seventies, the number of teenagers was 43 percent higher than in the preceding decade.

The baby boom was a dramatic demographic event which will continue to influence our society for many years to come. Its implication for us is simple; it means that although the birth rates for most teens were declining in the seventies, the number of teen births rose until 1970 and declined slowly thereafter. Since birth rates and numbers of births were falling faster for older women, the proportion of births to teens actually rose. If we looked no further, we might conclude that adolescent childbearing was not a problem and that the appearance of a "problem" was an artifact of the structure of the population. However, more careful review of the components of the birth rate gives a different picture.

Age of Mother

When demographers talk about teenage childbearing, they generally refer to births to women under the age of 20. Indeed, statistics are made available for five-year age groupings, and most teen births are to women 15-19. However, this groups together women who may have completed high school and who have very good pregnancy outcomes with young women who may be in junior high school and who are high risk obstetrical patients. During the seventies, the birth rates fell fastest for the oldest teens and actually rose for the very youngest, those under age 15. These teen mothers under 15 account for a very small percentage of all births (less than one-half of one percent), but these youngsters are viewed as high risk from both a social and medical standpoint. While births to women under 15 totaled less than 7,500 in 1960, they rose to almost 13,000 in 1973 before declining to the 1984 level of about 9,965.

Marital Status of the Mother

During the seventies, the number of babies born to unmarried teenage women rose significantly from under 100,000 in 1960 to almost 200,000 in 1970 to over 270,000 in 1984. In fact, in 1984 over half (56 percent) of births to teens were out-of-wedlock as contrasted with 15 percent in 1960. Marriage rates fell sharply during the seventies for teenage women. The rate at which single teens bore children rose, but did not approach the rate for single women 20-24. Births to unmarried mothers are frequently associated with poorer prenatal care as well as with fewer economic resources.

Trends in Sexual Activity

It is important to have measures of sexual activity in order to interpret trends in pregnancies and births. Obviously, only those who are sexually active are at risk of pregnancy, and since that proportion changes over time and with the age of the young women, an accurate picture of these trends requires data on sexual activity. In 1971, little more than one-quarter (27.6 percent) of never-married women aged 15-19 reported they had engaged in sex, a figure that rose throughout the seventies. Data from the National Survey of Family Growth--Cycle III (NSFG-III) collected in 1982 by the National Center for Health Statistics indicated that the proportion of teenaged women (15-19) who had ever had sexual intercourse had declined from the rates estimated for 1979. The 1982 survey indicates that 42.8 percent of never-married teenaged women have engaged in sexual activity at least once. Comparisons with other data sources corroborate this trend. To be more specific, the rates for black teens appear to have declined a little and the rates for white teens appear to have stabilized. Those teens who delay intercourse through their 17th year have a lower chance of initiating intercourse while still a teenager than teenagers in the past. Unfortunately, the rates are still rising for the very youngest teens.

Research has found a consistent pattern among youth who begin sexual activity at an early age. This pattern consists of early physical maturation, low religiosity, low parental education, coming from a single-parent family, less academic achievement, lower educational expectations, and early involvement in activities such as alcohol and drug use. Research also indicates that blacks begin sexual intercourse at an earlier age than whites, and males begin earlier than females.

Trends in Pregnancies

Of course, not all pregnancies end in live births. Up to 20 percent are lost through first-trimester miscarriage, a small proportion are lost late in pregnancy or through stillbirth, and others end in induced abortions. Data for induced abortions can be combined with data on live births and estimates of pregnancy losses to calculate rates of conception. These calculations show that between 1974 and 1983, there was a two-percent increase in the number of conceptions. We have just seen, however, that most female teens are not sexually active and that the proportion who are has changed significantly during the past decade. Also, marriage rates have been falling for teenage women. If the birth and conception rates are adjusted to take into account the proportion of young women who are sexually active, we find that the birth rate for those "at risk" has fallen by 24 percent from 1974 to 1983 and that the pregnancy rate has declined by almost seven percent.

Consequences of Adolescent Childbearing

Concern about early pregnancy and childbearing revolves around the effects on the young woman, her child, the father, and other family members involved, as well as society as a whole. I will discuss the effects on the young woman's marital and family experience, her education, occupational and economic future, and her life satisfaction. There is a strong association between younger ages at first birth and higher proportions of unwanted and out-of-wedlock births, a faster pace of subsequent childbearing, and larger family size upon completion of childbearing. This early involvement in family life is not, however, associated with marital stability or satisfaction. Many studies confirm higher rates of marital separation, divorce and remarriage for teenage parents. Marital dissolution rates are higher the younger the adolescent is at the time of marriage, and those who marry young are likely to express regrets later about the marriage. The risk of marital dissolution is carried on through later life, and shows up in increased risks of marital dissolution in second marriages. For the adolescent mother who is not married, studies show that she is very likely to marry soon after the birth, and that she, too, is at high risk of divorce.

Education and Occupation

Women who become mothers while adolescents exhibit reduced educational and occupational attainment, lower income, and increased welfare dependency relative to their peers. One study shows that those who became mothers while teenagers had lower academic aptitudes, grades, and educational aspirations to begin with, but another study found a detrimental effect of early childbearing on education even when controls were introduced for family background and motivation. The negative effect of an early first birth on education holds even when background characteristics are controlled, and is felt by both males and females, but the effect on women is stronger and increases over time. Young mothers are more likely to express regret over their educational careers.

The effect of adolescent childbearing on education is especially important since it affects occupation and earnings. A decade after high school, women who became mothers early were more likely to be working than their classmates but in jobs of lower pay and prestige and with less job satisfaction. Several studies have shown that the effect of an early age at first birth on occupational attainment is a function of reduced education and, to a lesser extent, of increased family size. The relationship between educational attainment and economic well-being is strong, and there is consequently a significant association between early motherhood and later economic distress. Women who begin childbearing as teenagers have increased welfare dependency, and at the time of a 1975 study, half of the families receiving AFDC were families begun when the mother was a teenager. The effect of early childbearing on economic attainment continues over the years as well. Few of these women "catch up" to those who delayed family building.

Life Satisfactions

As noted above, young mothers do not appear able to catch up to their peers in terms of education, occupation or earnings; other studies show that their reaction to the timing of their births does not improve over time either. A longitudinal study found that soon after the first birth, almost half (48 percent) of the teenage mothers said they wished the child had been born later or not at all. Three years later, 78 percent said that, looking back, they would choose to have their first birth later. The wantedness of pregnancies is important not only from the perspective of a new mother's satisfaction, but in terms of infant health as well. Women who report their pregnancies as unwanted (or mistimed) are less likely to receive early prenatal care and more likely to bear a low birthweight baby. Another longitudinal study found that early childbearers were more likely to have educational and marital-related regrets. A study which looked at the mother's psychological well-being when her child was in the first grade found that young teenage mothers were more likely than older mothers to report feeling very bad at this time.

Effects on the Father

Adolescent men also feel effects of fathering a child since they may drop out of school to go to work. One study found that initially more adolescent fathers were working than their classmates, at jobs of about equal prestige, and were making more money. By 11 years out of high school, however, their classmates' investment in education had begun to pay off in higher incomes and more prestigious jobs. The fathers of the babies of unmarried mothers may, however, not be as affected since they appear to play a minimal role in childrearing. One study shows that less than one-fourth were in weekly contact with the child's mother several years after the birth, and frequency of contact declined over the early years of the child's life. Maintaining social contact seems to be linked with providing economic support. Fathers who are not providing economic support are unlikely to compensate with social support. Many of these men had limited economic means, and none of the unwed mothers in this study received economic support from the child's father for all three years surveyed.

Consequences for the Children

A number of studies have assessed the consequences of adolescent childbearing for the children involved. Several have examined the effects of maternal age on pregnancy complications and the resulting risk to the newborn. Their findings suggest that the negative effects of maternal age on pregnancy and neonatal health found in population-based studies were largely mediated by the quality of health care received by the mother and infant rather than being a function of the mother's biological age.

Studies examining the child's later development have shown that mother's age at child's birth and social factors are related to the child's subsequent physical health and cognitive and social development. One study using measurements taken at one year of age found that children of parents with low socioeconomic status and children of unmarried mothers who live alone with their children generally show poorer physical health. In addition, children of older mothers, 25 years and over, were healthier than children of younger mothers, except in cases where teenage mothers rely upon older women (e.g., grandmothers) for child care.

The social, emotional, and intellectual development past infancy of the children of adolescents continues to be related to mother's age at birth. Two studies have found a consistent tendency for children of adolescents to have slightly lower I.Q. scores than children of older mothers when measured at several ages up to seven years. The effect may be more pronounced for young women who have already left school before they become pregnant. Some effects of maternal age on social and emotional development have also been found. An analysis of several large U.S. data sets has shown that young mothers are at a clear disadvantage in terms of those socioeconomic variables that relate to I.Q. (occupation, education and income) and that these factors are largely responsible for any effect of maternal age on the I.Q. of the child.

Consequences for the Adolescent's Parents

The influence of adolescent childbearing on the parental family has been one of the least examined areas, although there is evidence that the adolescents' kin--especially their mothers--are often drawn into child care and support. A longitudinal study in an urban area has found that most of the adolescent mothers were highly dependent on the family, especially during the first several years after the birth. Approximately 70 percent were living with one or both parents at the time of the birth, and more than a third were still residing with the parents five years later. Parents most typically provide room, board, and child care. Women who resided with their families during the five years after the birth were more likely to have graduated from high school, be employed, and not be on welfare. Other analyses show that the families do not experience disadvantages in their own socioeconomic and family careers as a result of the teenagers' births. In one study, the families of pregnant adolescents report a sense of renewed happiness and cohesion following the pregnancy. However, observation of their interactions show that the family's perceived "honeymoon" in the period surrounding the birth is followed by disillusionment and distress. Although the adolescent mothers and their families show various styles of coping with early parenthood, generally the adolescent is more likely to see her mother as more controlling, dissatisfied with her, and less affectionate than she did before the birth of the child.

Consequences for Society

Early childbearing also has an impact on society, for when individuals cannot realize their full educational and occupational potential, society loses their economic contributions. In addition, if early childbearers utilize public services more than other women, public expenditures on programs such as Aid to Families with Dependent Children (AFDC), Medicaid, and food stamps increase. In fact, AFDC mothers are more likely to have been teen mothers than were American women in general. Estimates of the public sector costs related to early childbearing--approximately 16 billion dollars--indicate that half of expenditures each year go to AFDC households in which the mother was a teenager at the time she bore her first child. This total does not necessarily represent the amount that could be saved if all these mothers had postponed their first birth, since some (one in ten) would have required some public assistance regardless of their age at first birth.

Further analyses addressed the relative impact of reducing births as opposed to mediating the effects of an early birth. For example, we measured the effect on public sector costs of no women under age 18 giving birth or of all young mothers completing high school. The results show savings for all approaches, but much greater savings when a birth is averted. As we all know, prevention is preferable to corrective care.

We are on the downward slope of the baby boom with smaller numbers of teens now than in 1980, fewer still in 1991, and increasing numbers thereafter. We have, perhaps, breathing room before the sheer numbers of teens increase again. The impact of the number of teens will be moderated by their fertility-related behavior. While recent data indicate a leveling off of sexual activity among older teens, increasingly teens will be from families where the parents were earlier initiators. The mother's age at first intercourse (and first birth) serves as a valuable predictor of the teen's behavior. How the many factors associated with age of first intercourse (e.g., religiosity, family structure) will change in the coming year remains to be seen.

Similarly, changes in contraceptive practice influence pregnancy rates. These factors, along with the use of abortion and adoption, influence the pace at which teens become parents. There are no indications that the trend away from early marriage will reverse. The effects of these patterns are influenced by many things, perhaps the most important being age of the teen. Caution should be exercised, therefore, in using data for all teens, or trends for all teens, in assessing future impact.

That concludes my prepared statement. I shall be pleased at this time to answer any questions that you or other Members of the Subcommittee may have.

ADOLESCENT PREGNANCY AND CHILDBEARING -- RATES, TRENDS AND RESEARCH FINDINGS FROM THE CPR, NICHD

July 1986

TABLE 1

Childbearing in the U.S. - 1960, 1970, 1980, and 1983

	1960	1970	1980	1984
Total number of births	4,257,850	3,731,386	3,612,258	3,669,141
Number of births to women				
under 15	6,780	11,752	10,169	9,965
15-17	173,507	223,590	198,222	166,744
18-19	413,459	421,118	353,939	302,938
under 20	593,746	656,460	562,330	479,647
Percent of births to women under 20	14.3	17.5	15.6	13.1
Total number of out-of-wedlock births	224,300	398,700	665,747	770,355
Total number of out-of-wedlock births to women under 20	91,700	199,900	271,801	270,179
Percent of births to women under 20 out-of-wedlock	15.4	30.5	48.3	56.3
Percent of out-of-wedlock births to women under 20	40.9	50.1	41.0	35.1
Number of out-of-wedlock births, ages 18-19	43,400	94,300	140,779	145,749
Number of out-of-wedlock births, ages 15-17	43,700	96,100	121,900	115,355
Number of out-of-wedlock births, under 15	4,600	9,500	9,024	9,075
Illegitimacy rate, women 15-19	15.3	22.4	27.6	30.2
Illegitimacy rate, women 20-24	39.3	38.4	40.9	43.2

Sources: National Center for Health Statistics, Monthly Vital Statistics Report, "Final Natality Statistics, 1970," Vol. 22, No. 12, Supplement, March 20, 1974.

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National Center for Health Statistics, Monthly Vital Statistics Report, "Advance Report of Final Natality Statistics, 1982," Vol. 33, No. 6, Supplement, September 28, 1984.

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TABLE 2

Births per 1,000 Women 14-19 Years of Age, by Single Years of Age, for All Women: United States, 1920-1984

Period	14[a]	15	16	17	18	19
1920-24	3.6	11.9	28.6	57.9	93.1	125.4
1925-29	3.9	12.3	28.5	55.6	86.9	114.0
1930-34	3.4	10.9	25.2	48.6	75.3	99.0
1935-39	3.7	11.5	26.0	49.0	75.0	97.9
1940-44	4.0	12.7	27.8	52.2	81.7	109.2
1945-49	4.9	15.5	34.1	63.7	99.4	133.0
1950-54	5.9	19.3	43.1	79.7	123.1	162.6
1955-59	6.0	20.1	45.7	85.8	136.2	184.0
1960-64	5.4	17.8	40.2	75.8	122.7	169.2
1965	5.2	16.5	36.0	66.4	105.4	142.4
1966	5.3	16.4	35.5	64.8	101.8	136.1
1967	5.3	16.5	35.3	63.2	97.5	129.5
1968	5.7	16.7	35.2	62.6	95.7	125.2
1969	6.0	17.4	35.8	63.1	95.7	124.5
1970	6.6	19.2	38.8	66.6	98.3	126.0
1971	6.7	19.2	38.3	64.2	92.4	116.1
1972	7.1	20.1	39.3	63.5	87.1	105.0
1973	7.4	20.2	38.6	61.5	83.1	98.5
1974	7.2	19.7	37.7	59.7	80.5	96.2
1975	7.1	19.4	36.4	57.3	77.5	92.7
1976	6.8	18.6	34.6	54.2	73.3	88.7
1977	6.7	18.2	34.5	54.2	73.8	89.5
1978	6.3	17.2	32.7	52.4	72.2	88.0
1979	6.4	17.2	32.8	52.5	73.5	90.4
1980	6.5	17.4	33.1	53.1	74.6	92.5
1981	6.3	17.0	32.1	51.5	72.2	89.5
1982	6.4	17.2	32.5	51.9	72.1	89.1
1983	6.4	17.1	32.1	51.1	70.8	86.6
1984	6.2	16.7	31.4	50.4	70.1	85.8
Percent decline from highest rate to 1984						
	16%	17%	31%	41%	49%	53%

[a] Births to girls under 15 divided by the number of 14-year-olds in each year.

Sources (Table 2):

1920-73: National Center for Health Statistics, Fertility Tables for Birth by Color: United States, 1917-73, DHEW Publication No. (HRA) 76-1152, U.S. Government Printing Office, 1976, p. 37.
1974: National Center for Health Statistics, Vital Statistics of the United States: 1974, "Volume 1--Natality," DHEW Publication No. (PHS) 78-1100, U.S. Government Printing Office, 1978, p. 32.
1975: National Center for Health Statistics, Vital Statistics of the United States: 1975, "Volume 1--Natality," DHEW Publication No. (PHS) 78-1113, U.S. Government Printing Office, 1978, p. 32.
1976-1984: National Center for Health Statistics, Unpublished tabulations.

TABLE 3

Percent Never Married Women Living in Metropolitan Areas Experiencing Sexual Intercourse, 1971, 1976, 1979, and 1982

	1982	1979	1976	1971	Percent Increase 71-79
15-19	42.2	46.0	39.2	27.6	66.7
15	17.8	22.5	18.6	14.4	56.2
16	28.1	37.8	28.9	20.9	80.9
17	41.0	48.5	42.9	26.1	85.8
18	52.7	56.9	51.4	39.7	43.3
19	61.7	69.0	59.5	46.4	48.7

Sources: Melvin Zelnik & John F. Kantner, "Sexual Activity, Contraceptive Use and Pregnancy Among Metropolitan-Area Teenagers: 1971-1979", Family Planning Perspectives, Vol. 12, No. 5, Sept/Oct 1980.
William Pratt, NCHS, National Survey of Family Growth, Cycle III, Unpublished tabulations, 1984.

SUMMARY BASED ON NICHD ANNUAL REPORTS, 1976-1981

Consequences of Adolescent Childbearing

Concern about early pregnancy and childbearing revolves around the effects on the young woman, her child, the father, and other family members involved, as well as society as a whole. While birth rates of older adolescents have declined in recent years, birth rates of middle adolescents have remained fairly high and the rates among younger adolescents were increasing until very recently. There has been an increase in the likelihood of out-of-wedlock births and adolescents still account for nearly one-third of the legal abortions performed in this country each year. There is substantial evidence of high levels of unintended pregnancy and childbearing among adolescents and research is generating an improved specification of the effects of this behavior. While these studies, taken together, indicate that many of the effects of childbearing among adolescents reflect the background characteristics of the mother and father, they also indicate an independent effect of age at first birth on several outcomes. For the mother, and often the father, the effects are felt most strongly on education and fertility. The effect on economic well-being appears to be channeled through reduced educational attainment and increased fertility. While the health risks of pregnancy are minimal for the older teenagers, there is evidence that the 18- and 19-year-olds still feel the social and economic effects of an early first birth, although not as strongly as they are felt by younger adolescents. The effects of an early first birth are felt on three generations in that parents of adolescent childbearers are called upon to provide support for the young mothers, and the children born of adolescents feel the effects of their parents' reduced educational and occupational attainment in many ways.

Marriage and Childbearing

There is a strong association between younger ages at first birth and higher proportions of unwanted and illegitimate children, a faster pace of subsequent childbearing, and higher completed fertility. Another study shows that early childbearers continue to have considerably larger families into their 30s and 40s even when other factors have been controlled. Although women whose first births occur at ages 18 and 19 experience somewhat lower subsequent fertility and fewer unwanted births than younger women, they are still more likely to have larger families than women whose first birth occurs after age 20.

This early involvement in family life is not, however, associated with marital stability or satisfaction. Many studies confirm higher rates of marital separation, divorce and remarriage for teenage parents. Marital dissolution rates are higher the younger (i.e., below age 17) the adolescent is at the time of marriage, and those who marry young are likely to express regrets later about the marriage. A contributing factor to the high incidence of marital dissolution is the fact that many teenage marriages involve a premarital birth or conception. One study reports that a premarital first birth is associated with higher dissolution rates for both blacks and whites. On the other hand, a premaritally conceived but legitimately borne first birth increases dissolution rates only for whites. Blacks show no difference in dissolution between those whose first birth is premaritally or postmaritally conceived. The risk of marital dissolution is carried on through later life, and shows up in increased risks of marital dissolution in second marriages. Approximately 21 percent of both black and white women who had a birth under the age of 20 separated from their second husbands within the first five years of their second marriage. For the adolescent mother who is not married, studies show that she is very likely to marry soon after the birth, but she, too, is at high risk of divorce.

Education and Occupation

Early childbearing has a variety of effects on the future of the mother. Women who become mothers while adolescents have reduced educational and occupational attainment, lower income, and increased welfare dependency. Preliminary analyses of another study on the consequences of adolescent childbearing in black and white populations of lower socioeconomic status show that blacks giving birth under age 18 were disadvantaged in a number of areas compared to older women: at the time they gave birth, they were more likely to have lower incomes; the fathers of their babies were less likely to be present or to be married to them; had completed fewer years of school and were less likely to have prior work experience. Disadvantages remained on a seven-year follow-up. Also in the seven-year follow-up, younger women were more likely to receive public assistance, and were less likely to be living with husbands. They also remained less well-educated. Another study shows that those who became mothers while teenagers had lower academic aptitudes, grades and educational aspirations, but another study found a detrimental effect of early childbearing on education even when controls were introduced for family background and motivation. The negative effect of an early first birth on education holds even when background characteristics are controlled, and is felt by both males and females, but the effect on women is stronger and increases over time. Young childbearers are more likely to express regret over their educational careers.

The effect of adolescent childbearing on education is especially important since it is the mechanism by which occupation and earnings are affected. Women who bear their first child during their teens are also likely to suffer lowered occupational prestige and earnings. Early family formation forces males into the labor force at an early age, and a decade later they have jobs at lower pay and prestige than classmates who did not begin their families so young. A decade after high school, women who became mothers early were more likely to be working than their classmates but in jobs of lower pay and prestige and with less job satisfaction. Several studies have shown that the effect of an early age at first birth on occupational attainment is a function of reduced education and, to a lesser extent, of increased family size.

The relationship between educational attainment and economic well-being is strong, and there is consequently a significant association between early motherhood and later economic distress. Women who begin childbearing as teenagers have increased welfare dependency, and half of the families currently receiving AFDC are families begun when the mother was a teenager. A study conducted in New York City found that 58 percent of the teenage mothers had resided in households receiving public assistance at some time during the early years after their first birth, twice the proportion of all new mothers. The effect of early childbearing on economic attainment continues over the years as well. Few of these women "catch up" to those who delayed family building. One of the disadvantages teenage mothers suffer in the job market is due to their lack of previous work experience. When considering only those with work experience, employment rates after the first birth are [illegible] similar for mothers in their teens and late twenties.

Among married adolescents who had finished high school, parents differed little from nonparents in educational expectations when background characteristics and marriage dates were controlled. In short, young people with modest educational expectations appeared to be self-selected into adolescent parenthood. A study based on the National Longitudinal Study of High School Seniors found young women's orientation toward work was closely related to their marital and parenthood status. The importance of careers to married women decreased near the marriage date and decreased further when parenthood was imminent. Married men, compared with unmarried men, attached somewhat more importance to their careers, but parenthood had only a slight effect on men's orientation toward work. Young married women, mothers seemed slightly less satisfied with their career progress than did nonmothers, and dissatisfaction seemed linked to the timing of parenthood. Although the pattern was similar among married men, the timing of parenthood was not significant.

Life Satisfactions

As noted above, young mothers do not appear able to catch up to their peers in terms of education, occupation or earnings; other studies show that their reaction to the timing of their births does not improve over time either. A longitudinal study found that soon after the first birth almost half (46 percent) of the teenage mothers said they wished the child had been born later or not at all. Three years later 78 percent said that, looking back, they would choose to have their first birth later. Another longitudinal study found that early childbearers were more likely to have educational and marital-related regrets. A study which looked at the mother's psychological well-being when her child was in the first grade found that young teenage mothers were more likely than older mothers to report feeling very sad at this time.

Effects on the Father

Adolescent men also feel effects of fathering a child since they may drop out of school to go to work. One study found that initially more adolescent fathers were working than their classmates and at jobs of about equal prestige, but were making more money. By 11 years out of high school, however, their classmates' investment in education had begun to pay off in income and higher prestige jobs. At least in the short run, adolescent fathers also [illegible] choose jobs on the basis of job security and [illegible] [illegible], or to be more concerned with the necessities of living (e.g., steady salary, good health) rather than self-expression (e.g., the kind of work they really want to do), whereas the nonparents choose jobs on the basis of intrinsic worth.

This same study indicates that the fathers of the babies of unmarried mothers play a minimal role in childrearing. Less than one-fourth were in weekly contact with the child's mother several years after the birth, and frequency of contact declined over the early years of the child's life. Maintaining social contact seems to be linked with providing economic support, rather than being a substitute for it. Many of these men had limited economic means, and none of the unwed mothers in this study received economic support from the child's father for all three years surveyed.

Consequences for the Children

A number of projects have assessed the consequences of adolescent childbearing for the children involved. Several have examined the effects of maternal age on pregnancy complications and the resulting risk to the newborn. These studies suggest that the negative effects of maternal age and the social factors on pregnancy and neonatal health found in population-based studies were largely mediated by the quality of health care received by the mother and infant rather than being a function of the mother's biological age. An assessment of the mothers' knowledge of developmental norms did not reveal consistent and significant evidence that young mothers are less well informed on child development. Another study, starting with the first days of the infant's life, has found that children born of adolescent mothers were significantly more overaroused or underaroused than the children of older mothers. It is believed that the stress associated with being an adolescent mother could affect the mother-child interaction so as to exaggerate the early differences.

Studies examining the child's later development have shown that mother's age at child's birth and social factors are related to the child's subsequent physical health and cognitive and social development. One study using measurements taken at one year of age found that children of low socioeconomic status and children of unmarried mothers who live alone with their children generally show poorer physical health. In addition, children of older mothers, 25 years and up, are healthier than children of younger mothers, except in cases where teenage mothers rely upon older women (e.g., grandmothers) for child care. Another study found differences in mother-infant interaction patterns between younger and older mothers. Older mothers both vocalized to and looked at their babies more than younger mothers. Increased talking and looking time were associated with higher scores on tests of motor and mental skills, with more positive maternal attitudes and with more positive perceptions of the baby's temperament.

The social, emotional, and intellectual development past infancy of the children of adolescents continues to be related to mother's age at birth. Two studies have found a consistent tendency for children of adolescents to have slightly lower I.Q. scores than children of older mothers when measured at several ages up to seven years, and some effects of maternal age on social and emotional development have also been found. A Chicago-based study has found that children of mothers who began childbearing at 17 or younger are less likely to be rated by first grade teachers as adapting to school than are children of older mothers. Among boys, failure to adjust to school is associated with psychiatric symptoms later as a teenager. An analysis of several large U.S. data sets has shown that young mothers are at a clear disadvantage in terms of those socioeconomic variables that relate to I.Q. (occupation, education and income) but that even when these factors are controlled, there is a small but consistent effect of maternal age on the

I.Q. of the child. The child of an older mother does slightly better on intelligence (WISC) and achievement (WRAT). This effect also appears for children whose mothers were no longer teenagers at their births but who had begun their families as teenagers.

The cognitive, personality, educational, occupational, marital and fertility consequences of adolescent childbearing are not as severe for the children as for the parents, especially the mother involved. While differences in all of these outcome dimensions have been found between children of adolescent parents and their classmates, all except the cognitive differences disappear when antecedents (such as race and socioeconomic status) are controlled. Children born when their parents were under eighteen had lower cognitive scores than children born when their parents were ages 18 and 19. Children of adolescent fathers and adolescent mothers had lower cognitive scores than children of adolescent mothers and older fathers. Children of adolescent mothers experienced a greater probability of living in a non-intact home while in high school, have lower academic aptitude as a teenager and are at slightly increased risk of repeating their parents' pattern of early marriage, early parenthood and greater fertility. A separate study found the best predictor of a woman's age at first birth was her mother's age at first birth. The cognitive differences appeared to be mediated largely by the continuity of the family structure in which the child was reared. Children raised by their two biological parents had the highest cognitive scores followed by children raised by one biological parent and one stepparent, then by children raised by a single parent or by a person other than a parent, and lastly by children who were shuttled back and forth between two households, one headed by the father and the other by the mother. When family structure and antecedent demographic variables of race, socioeconomic status and birth order were controlled, cognitive differences between children of adolescent parents and their classmates ceased to be statistically significant. This is consistent with findings from a variety of studies which point to the importance of family structure as an intervening variable between adolescent childbearing and the effects on the mother and child.

Consequences for the Adolescent's Parents

Several projects have addressed the influence of adolescent childbearing on the parental family. This has been one of the least examined consequences of adolescent childbearing although there is evidence that the adolescents' kin--especially their mothers--are often drawn into the situation. A longitudinal study in an urban area has found that most of the adolescent mothers were highly dependent on the family, especially during the first several years after the birth. Approximately 70 percent were living with one or both parents at the time of the birth, and more than a third were still residing with the parents five years later. Parents most typically provide room, board, and child care. Factors influencing the amount of aid were the adolescent's desire to finish school, her emotional reliance on her parents, the family's economic resources, available space in the household, and the adolescent's additional childbearing. Women who resided with their families during the five years after the birth were more likely to have graduated from high school, be employed, and not be on welfare. The teenage birth conveys both burdens and benefits on the family and that balance varies from one family to another. Analyses show that the families do not experience disadvantages in their own socioeconomic and family careers as a result of the teenagers' births. A separate study addressing factors related to variations in norms and sanctions surrounding illegitimacy within the black community found only 44 percent of black adolescent females reacted favorably to their out-of-wedlock pregnancies, while 41 percent were ambivalent. Concrete financial support or child care help by black parents was generally high, while emotional support varied. Similarly, a New York City study found that while public assistance was the primary form of support for unmarried mothers, the woman's parents--particularly the mother--often played a key role. Over 70 percent had lived with their mothers at some time in the few years after the birth. Support ranged from housing and child care to direct financial aid for two-thirds of the respondents.

One study which included both adolescent mothers and adolescents who delayed a birth, examined the family context of adolescent parenthood. The investigator studied the adolescent's relationships within the family of origin as well as with the baby's father and his family, and the adolescent's expectations regarding her own future marriage plans. The study corroborates the trend towards less traditional attitudes and behavior, e.g., more adolescents felt they may never get married, yet believed having a child out of wedlock did not hurt their chances for marriage. Generally, the families of pregnant adolescents report a sense of renewed happiness and cohesion following the pregnancy. However, observation of their interactions show the family's perceived "honeymoon" in the period surrounding the birth is followed by disillusionment and distress. Although the adolescent mothers and their families show various styles of coping with early parenthood, generally the adolescent is more likely to see her mother as more controlling, dissatisfied with her, and less affectionate than she did before the birth of the child. The percentage of families receiving public assistance likewise increased after the third trimester of pregnancy, with conflict between the adolescent and parents often being about money.

Consequences for Society

Early childbearing also has impact on society, for when it prevents individuals from achieving their educational and occupational goals, society loses their contributions to the economy and the tax base. More directly, if early childbearing leads to greater use of public services, there is a direct impact on public expenditures. These public sector costs include Aid to Families with Dependent Children (AFDC), Medicaid, food stamps, foster care, and so forth. AFDC mothers were more likely to have been teen mothers than were American women in general. Among AFDC mothers under age 30, 64 percent had been teenage mothers, whereas only 24 percent of all American women aged 20 to 30 in 1975 had given birth before age 20. Initial estimates of the public sector costs related to early childbearing indicate that in 1975 a total of $8.55 billion was expended on AFDC households in which the mother was a teenager at the time she bore her first child. This total includes $5.00 billion expended on AFDC, $1.45 billion on Food Stamps, $.93 billion on Medicaid to the children of AFDC mothers, and $1.17 billion for Medicaid for AFDC recipients who were teenage mothers, including the cost of prenatal care and delivery for teenage mothers still under the age of 20. This total does not necessarily represent the amount that could be saved if all these mothers had postponed their first birth, since some would have required public assistance regardless of their age at first birth.

Antecedents of Adolescent Childbearing--Sexual Behavior

Information about sexual activity is important because it tells how many teens are at risk of pregnancy or in need of services and also because aspects of sexual behavior influence contraceptive practice. Three major surveys have been conducted at Johns Hopkins University by John F. Kantner and Melvin Zelnik which gathered information on adolescent sexual activity and contraceptive use. In 1971 and 1976, nationally representative samples of young women aged 15-19 were interviewed about their sexual, contraceptive and reproductive behavior and a number of socioeconomic and attitudinal factors believed to be associated with adolescent sexual activity. The 1979 survey, carried out in metropolitan areas of the United States, included both females 15-19 and males 17-21, the age group that includes the partners of 15-19-year-old women. Both the consistency and effectiveness of contraceptive use increase with the frequency of sexual activity and the number of sexual partners. In 1979, data for metropolitan areas show that about half of women aged 15-19 have experienced premarital intercourse. There was no lowering of the age at first intercourse as noted earlier in the decade, but the proportional increases have been greatest at ages 15 and 16. The probability of intercourse increases with age, exceeding 50 percent only for 18- and 19-year-olds. The 1979 survey found that about three-quarters of young men and women living in metropolitan areas of the United States have had sex education in school, and about eight out of 10 of those who have taken such a course report that they received information about different types of contraceptive methods. Concern has been expressed about whether or not sex education would lead to increased adolescent sexual activity, yet research findings indicate that young people who have had sex education are no more likely to have had sexual intercourse than those who have never taken a course. However, sexually active young women who have had sex education are less likely to have been pregnant than their counterparts who have had no such instruction. Analyses also show males are more likely to be sexually active than females of the same age. Other research on males confirms their greater sexual activity and their greater expectation of benefits from such behavior than the expectations reported by girls.

While age and race are strong predictors of sexual activity, religion also has an effect. Analysis of national data from 1971 shows that female adolescents who report believing religion is important to them or who attend religious services regularly are less likely to be sexually experienced when other factors are taken into account. In general, premarital intercourse is more prevalent among blacks, older adolescents, women of low socioeconomic status, non-Catholics, and women not reared by their natural parents. Whites report more premarital sexual partners than blacks, and the longer a woman has been sexually active the more partners she reports. Plans to marry, use of medical contraceptive methods, and number of premarital sexual partners appear directly associated with high frequency of intercourse among never-married, sexually active women, a frequency that is higher for whites than for blacks. Age at menarche was directly related to age at first intercourse and inversely related to the prevalence of premarital intercourse. Most teens are at least two years post-menarche when they become sexually active, even the girls who begin sexual activity quite young.

These data were used to assess the risk of conception soon after the initiation of sexual activity, a risk that is quite high. While most teens delay coming for contraceptive advice or services, their risk of becoming pregnant is high in the first six months of exposure to intercourse and half of the premarital pregnancies occur during this time. The younger the adolescent the greater the risk because contraceptive practice is worse for the younger teens. One implication of this analysis is that efforts should be directed at reaching adolescents before they become sexually active and before they identify themselves as being in need of services.

Contraceptive Behavior

A comparison of national data from surveys done in 1971 and 1976 shows that the use of effective methods of contraception has increased among unmarried teenage girls, but there are still many who do not use contraception. The major reason given for not using contraception is the belief that pregnancy could not occur--for a variety of reasons, including having intercourse at the time of the month when it was thought that pregnancy could not occur, being too young to become pregnant, and having intercourse too infrequently to become pregnant. Another important reason for not using contraception was that the girl had not expected to have intercourse. Another study confirms previous reports of adolescents' ignorance about contraceptive methods and the fertile period of the menstrual cycle. Furthermore, teens often think they understand a contraceptive method when, in fact, they do not.

In the late 1970s, several changes occurred in contraceptive practices among teenage women. There was a substantial decline in the proportion using the pill as their first method, but only a slight decline in the proportion using the pill as their present method. In 1979, 41 percent of women aged 15-19 living in metropolitan areas who had ever used a contraceptive had most recently used the pill. Of those same women, 23 percent reported using the condom and 19 percent withdrawal. To the extent that pill use declined, the slack was taken up by withdrawal and to a lesser extent by diaphragm and rhythm. From 1976 to 1979, more teens were contraceptively protected all the time, but also more reported never using contraception.

Information about reproduction and contraception is provided not only through sex education courses in school, but also at the clinics where teens obtain contraceptives. Studies in clinics show a surprising lack of knowledge among adolescents even when the information has been presented to them. Only somewhat over half of the females in one teen clinic sample had correct knowledge about contraceptive methods. Sixty percent of the males knew less than their partners. Females retained less than they were taught in the clinics because the information was too abstract, and they were often too anxious and distracted to learn the new material. The males felt relatively powerless to control fertility since most of the recommended methods were for females.

Psychosocial Factors

A four-community study focused on 16- and 17-year-old males and females and the relationship between psychosocial factors and fertility-related behaviors. Psychosocial factors predicted sexual behavior better than contraceptive behavior or pregnancy but were difficult to classify as antecedents or consequences of sexual behavior. Not surprisingly, the best predictors were those that closely corresponded to behaviors. For example, approval of sexual activity for adolescents in love most strongly predicted sexual behavior, but again the attitude appeared to follow the behavior rather than precede it. Willingness to have unprotected intercourse and perceived barriers to the use of contraceptives predicted contraceptive nonuse.

In a separate study other psychosocial measures appeared related to contraceptive side effects and failures. Adolescents initially assessed as: reporting more negative family relationships earlier in life; showing lower levels of socialization and generally displaying more socially unacceptable behavior; having less ability to think ahead into the future; having a poorer self-concept; and displaying other negative personal characteristics, such as passivity or impulsivity, experienced more side effects and more side effects that led to contraceptive failures. Also, medical problems generally were related to personal characteristics. Demographic characteristics such as age, ethnic background, and class were studied in relation to contraception, but were found as a rule not to be related systematically to contraceptive side effects. These findings suggest a role for psychological determinants of what are usually considered physiological problems in the use of contraception.

Another study focused on psychosocial determinants of adolescent contraceptive practice and found various liberal attitudes about sex were powerful differentiators of virgins from non-virgins. The non-virgins appeared more self-confident, saw contraception as more available, were aware of the need for its use, and were more traditional in their views of male-female relationships. The virgins saw more negative features of contraception and were more embarrassed about the idea of discussing it. Preliminary analyses from a Chicago-based study have shown that, especially among younger adolescents, facts about reproductive anatomy and physiology, and thoughts and experience with conception, contraception, and heterosexuality appear as pieces of a complex puzzle that do not fit together and are only dimly perceived. Females are far more concerned and knowledgeable about conception and contraception than are male partners, yet their effective use of contraceptive methods is compromised by incomplete understanding of how they work and by notions that certain methods will not work for them. The difficulty which some experience with defining the nature and beginning of their menstrual periods affects their use of oral contraceptives and the early determination of pregnancy.

Other research supports earlier findings in demonstrating that many young women do not view abortion as a substitute method of birth control and that those who report they would choose an abortion, if pregnant, were more likely to have used a highly effective means of contraception at last intercourse. In another study of decision-making regarding the resolution of pregnancy, it was found that two-thirds of the pregnant girls studied reported having contingency plans before they became pregnant. Partners were significant in most decisions. Those having abortions characterized the impact of the partner as a direct influence, while the respondents who kept the child more often described their partners' influence as unsuccessful. A study of teenage mothers who became pregnant again compared with those who did not indicated that the important predictors of repeat pregnancy include low socioeconomic status, educational attainment, and I.Q.; problems with contraception as indicated by frequent changes in method; history of prior pregnancy often terminated by abortion; and missed clinic appointments. The relationship between the number of contraceptive changes and the risk of repeated pregnancy may provide a useful indicator for intensified preventive efforts.

Some of the complexity of the problem of fertility control among teenagers can be seen in studies which include teenage couples. One study showed that the partners frequently reported discrepant information about birth control. For example, 70 percent of the couples disagreed about which birth control methods they had used in their relationship. Much of this disagreement, however, is attributable to differing reports concerning withdrawal and rhythm. The absence of communication between partners also extends to the possible consequences of their sexual activity. When asked what they would do if the woman became pregnant, more than half of the men and women gave different responses. In many cases, however, both partners had strong but conflicting preferences and there was no indication that the matter had ever been discussed. One study found that the couples who were best protected were ones in which one partner took charge of contraception, rather than having the responsibility shared. On the other hand, couples whose overall communication was high tended to be effective contraceptors, suggesting that individuals determined to avoid a pregnancy may use communication more as a negotiating device to persuade partners that contraception is necessary than as a device which would involve both partners in the joint selection of contraceptive methods. To date, the clearest conclusions to be drawn from this work are that teen couples have poor sex education and that there is inadequate discussion between partners.

Preliminary results from several studies indicate the need to understand how teens think about personal dilemmas and what role models they have for the solution of problems they face in their personal lives. Findings suggest that when parents or others demonstrate effective, goal-directed behavior they provide the opportunity for adolescent females to learn these skills and to apply them to the proper use of contraceptives. In one study, the family experiences of those who never achieved proper contraceptive use provide instead an impression that life's problems are too difficult, complex, and unpredictable to master. A study of interpersonal skills training gives some evidence that changes can be effected in self-esteem and feelings of control. A study of mother-daughter communication showed better contraceptive practices for adolescents when there was communication between mother and daughter but also showed woefully low estimates of daughters' sexual activity by mothers.

Parental Influences

Family structure, which appears influential in translating the effects of early parenthood, also plays an antecedent role. An analysis of national data suggests that family structure variables are significant predictors of the probability of intercourse for adolescent women. In a national sample, teenage women who grew up in a household with both a male and a female parent were less likely to be sexually experienced than adolescents in a single-parent household, after controlling for age, religion, and various other socioeconomic characteristics. Educational expectations have a significant negative effect on the probability of intercourse, as do fathers' education and the age of the household head. Teenage women who work and go to school are less likely to be sexually experienced, but among the subsample of sexually active adolescents, work and school appear to be associated with a younger age at first intercourse.

Preliminary analyses of interviews with a sample of teenagers from an urban area has shown significant differences in educational aspirations, plans for motherhood, and problem-solving skills among four categories of young women: pregnant adolescents, sexually active non-contraceptors, sexually active contraceptors, and virgins. Pregnant adolescents are much less likely than others to want to attend college and are more likely to have fallen behind in school, even before becoming pregnant. Non-contraceptors want their first child at a younger age than contraceptors or virgins; 15 percent of the non-contraceptors want their first child at age 17 or 18. Contraceptors show more ability than non-contraceptors or pregnant adolescents to plan for personal goals and to find alternative solutions for personal problems. The influence of the parents can be seen in the association of mothers' low aspirations for their daughters' educations and the daughters' failures to practice contraception. Daughters of employed mothers are more likely than daughters of housewives to know about birth control and the negative consequences of pregnancy, to have higher educational aspirations, and to use contraceptives.

A study based on the 1971 Kantner-Zelnik data shows that educational expectations were negatively associated with the probability of intercourse; however, in the subsample of sexually active women, educational attainment and expectations were not related to contraceptive practice or to the incidence of pregnancy. Family background was strongly associated with the probability of pregnancy and also was related to sexual activity and contraceptive practice. Parents' educational attainment and family income were negatively related to the probability of pregnancy. In other studies, socioeconomic status (SES) was related to the extent of contraceptive use--the higher the SES, the more likely contraception was used at first intercourse, last intercourse, and was always used. A study in Louisiana found that where there was parental support for teenagers receiving family planning services, a sizable proportion of girls came for services before they were sexually active.

A study of adolescent women in Ontario, Canada, found that age, religiosity, career aspirations, parents' acceptance of premarital intercourse, peers' acceptance of premarital intercourse, peers' experience with premarital intercourse, commitment to dating, and frequency of dating were related to whether a young woman was a virgin. Peers' experience with premarital intercourse was the most important predictor of viginity status, followed by commitment to dating and religiosity. The influence of parents can be seen in the analysis of factors associated with embarrassment in obtaining contraceptives. Embarrassment was greater near the parental home than distant from it. Least embarrassment was found for obtaining birth control pills and most for condoms among the female sample. Guilt about sexual activity and ease of access to contraceptives were among the most important influences on embarrassment or the absence of it. Parents' attitudes toward premarital intercourse had the most important effect on embarrassment about obtaining contraceptives near the parental home, but away from home, friends' attitudes were more important.

The ambivalence of teens about parental influences on their willingness to obtain medically prescribed contraception is demonstrated by their frequent mention of the importance of parental approval while concurrently stressing their interest in establishing an independent relationship with the physician. When teens consider seeking reproductive health care, confidentiality becomes paramount and their evaluations of a doctor's trustworthiness on this matter can determine whether they visit the doctor for contraceptives. Interviews with parents show the mother's age at first intercourse to be predictive of the child's, an echo of earlier research which showed mother's age at first birth to be predictive of the daughter's. As with research on teenage couples, research on parents and their children shows discrepant reports of communication regarding sex. Parents seem to underestimate seriously the likelihood that their child is sexually active. The role of the family appears strong in terms of transmitting general values which affect sexual behavior (e.g., religiosity and educational aspirations), but their influence on specific sexual and contraceptive behaviors is less clear.

Social Policies

Other research has addressed the impact of hospital and clinic policies regarding health care as well as state and federal policies regarding welfare on adolescent fertility behavior. One analysis used the 1976 Survey of Income and Education data to test the direct effect of family planning services, abortion availability, age of consent laws concerning contraception and abortion, Medicaid coverage of abortion, welfare benefit levels and acceptance rates, welfare coverage of unborn children and unemployed fathers, and benefit levels of several programs on adolescent childbearing. Indirect effects were tested for local unemployment rates, female wages, and educational opportunity. State and federal assistance programs did not have a positive effect on adolescent childbearing. In fact, measures of benefits from Aid to Families with Dependent Children (AFDC), when statistically significant, were consistently negative, and AFDC policy variables were consistently unimportant. However, analysis of abortion data indicated that greater availability was associated with lower fertility. Another project presented a more intensive analysis which showed that areas with higher proportions of adolescents enrolled in family planning programs were also areas with higher adolescent birth rates. This is a common finding in many developing countries, due to the location of clinics in high fertility areas and to differences in socioeconomic characteristics and levels of sexual activity. This study also showed that areas with greater increases in the proportion of adolescents enrolled in family planning clinics between 1970 and 1975 generally had greater decreases in adolescent birth rates. The family planning program averted an estimated 119,000 births in 1975/1976 among women aged 15-19, 82,000 to whites and 37,000 to non-whites.

Representative SCHEUER. Well, thank you very much, Ms. Baldwin.

Mr. Harry Rosenberg, please take the same generously interpreted 8 and 10 minutes that your two predecessors have enjoyed and speak to us informally and then I'm sure we'll have some questions.

STATEMENT OF HARRY M. ROSENBERG, CHIEF, MORTALITY STATISTICS BRANCH, DIVISION OF VITAL STATISTICS, NATIONAL CENTER FOR HEALTH STATISTICS, DEPARTMENT OF HEALTH AND HUMAN SERVICES

Mr. ROSENBERG. Thank you, Congressman. I'm pleased to be with you today to discuss changes in the mortality experience of the American population and the impact of these changes on aging. I've submitted my prepared statement for the record and will briefly summarize my remarks.

I would like to focus on overall mortality trends and patterns, major causes of death, some factors associated with mortality, and the future of U.S. mortality.

I would also like to talk briefly about the implications of these changes for health care. I have illustrated my points with some graphics.

I am quite pleased, let me say, to have followed the remarks of Mr. Ryder and Ms. Baldwin because these in a very important way put mortality into the proper perspective with fertility.

Chart 1 shows that current mortality trends in the United States are quite encouraging. Since the late 1960's our country has been recording relatively large declines in death rates after more than a decade of very slow reduction in death rates. The age-adjusted death rate, which controls for changes in the aging population, is a better indicator of this than the crude death rate.

Not shown here is that current declines characterize virtually every age group of both sexes and of both major race groups, white and black. We've seen a gradual narrowing in the mortality between the two major race groups as death rates for the black population have declined more rapidly than those of the white population. Women continue to outlive men by several years, though this difference, after widening for many years, is now narrowing.

Chart 2, this chart shows trends in life expectancy by race since the beginning of this century. Prior to 1970, data are not shown separately for the black population but rather for the population of what is called "all other races," of which the black population constituted about 84 percent in 1980. As a result of the decline in death rates, a full year was added to life expectancy between 1980 and 1984, which is the most recent year for which we have data. In contrast, during the 1960's, only just over 1 year was added during the entire decade. For 1984, the latest year for which we have data, average length of life in the United States stood at a high plateau of almost 75 years. Life expectancy was highest for white women, followed by black women, white men and then black men.

As shown in chart 4, rapid reductions in U.S. mortality since the late 1960's reflect to a large degree the continuing decline in cardiovascular disease mortality. In particular, look at line 1 at the top of the chart, which shows declines for heart disease, our leading cause of death, and stroke, line 3, our third leading cause of death. Line 2, mortality from cancer, has not declined; indeed, it has been going up in a steady fashion. Not shown in the chart is infant mortality which has also reached new lows in the United States but whose decline has been slowing during the 1980's.

As shown in chart 3, the risk of death is closely associated with age, as we all know. Death rates tend to increase with age such that the greatest proportion of deaths is among the elderly. In 1984, over 70 percent of annual deaths were to persons 65 years and over, while fewer than 5 percent were to persons under 25.

Chart 5 begins to explore some of the factors associated with mortality. A broad variety of factors are believed to account for differences in mortality observed among areas, between population groups, and over time. Among these factors are life style, health care utilization, environmental and occupational exposures, and socioeconomic status.

A study by Kitagawa and Hauser, which is quite old by now but nevertheless a classic, looked at differences in mortality by social status. This chart shows mortality ratios. A mortality ratio is the level for a group in comparison with the average for all groups combined. It shows that in 1960—and we believe this to be relatively true now, although we have no current data on it—men age 25 to 64 of working age who lived in families with very low income, $2,000 at that time, had a mortality ratio which was 50 percent above the average, while those in the highest income category had death rates that were 16 percent below the average, a very wide span of mortality indeed when taken together. Women have the same type of pattern in relation to socioeconomic status measured by income. The same kinds of results show up when you look at social differences and the risk of dying by educational attainment and by occupation. We are trying to do more current work in this area.

While we don't know precisely how socioeconomic factors are related to the risk of death, we do know that they are related to differences in illness, in risk factors such as smoking and exercise, and in health care utilization.

To the extent that improvements in average social status of the U.S. population continue, we can also expect that mortality will continue to decline. That is not to say, however, that differences in health will not persist by socioeconomic status.

What can we say about the future of mortality in the United States? In chart 6, I show that there's considerable room for improvement in American mortality on the basis of comparisons with other countries and even among States in the United States. Compared with other industrialized countries around 1980, U.S. life expectancy ranked 15th for men and 8th for women, and I went to one of our reference books to see how infant mortality ranks most recently in relation to your remark, Congressman, and we stood 13th in the early 1980's among the industrialized countries.

Even within the United States, there are vast differences in life expectancy among the States. For the 1979–81 period, which is our most recent year which we have data, life expectancy in Hawaii, the highest ranking State, stood at 77 years compared to Louisiana, the lowest ranking State, which had life expectancy of 71.7 years.

There is, moreover, considerable impetus for continuing reductions in mortality based on comparing the mortality experience of different groups of people born at different times. For both white men and white women for whom we have data, death rates from heart disease for the most recently born cohort are much lower than those for the earlier born cohorts and we see that these differences persist largely throughout the life span. So the younger people today when they reach ages 65 or 75 can expect at that time to have much lower heart disease mortality. That is our leading cause of death, too.

Because we wanted to examine the implications of mortality decline, the National Center for Health Statistics made some projections of mortality. We made two assumptions. One assumption was our "pessimistic" scenario that mortality would not decline. Our second scenario was "optimistic," that mortality would continue to decline. And we wanted to see what impact this would have on the population by the end of the century. Our judgment was that these two different assumptions would encapsulate the experience that the United States is likely to have.

In the next chart, chart 7, we show the results of the optimistic projection, which would have life expectancy increase for females from 78.3 years to 84 years by the end of the century and increase for males from 71.1 to 74.2 years by the end of the century. Under the pessimistic assumption, life expectancy would remain the same. And as I say, that seems very unlikely.

Future mortality change will have consequences both for population and health care. NCHS, the National Center for Health Statistics, also looked at that. While the total size of the population would be very similar under the two assumptions of mortality, because, as Mr. Ryder indicated, it is fertility that is the driving force behind population change, the two different assumptions of mortality do have a considerable impact on the population structure, especially at ages over 65 and the rate of growth of those population groups.

Chart 8 shows that the declining mortality assumption, which is our optimistic assumption, the population would increase almost twice as fast—the population aged 65 and over—as it would under the no-change assumption. As a result of probable reductions in mortality, the proportion of the total population accounted for by the elderly can be expected to increase considerably by the end of the century. Mr. Keane provided some illustrative data on that, and I needn't repeat those.

Let me summarize. Since the late 1960's, the United States has experienced an unexpected and large, rapid reduction in mortality attributable largely to changes in heart disease and stroke mortality. As a result, life expectancy has reached record levels for both men and women and the size of the older population has increased in both numbers and as a percent of the total population.

Since we have reason to believe that the decline in mortality will continue, it is likely that we will have significant increases in the older population into the next century in part because of life extension, in part because of changes in fertility.

My primary reason for being here this morning is to describe mortality. However, it is impossible to ignore the implications of an increase in the older population for health and our social and economic structure; and I just want to say a few words about these as well.

In terms of health and health care, older persons in general have more health problems than younger people. Further declines in mortality are likely to result in large increases in disability, dependency of the elderly, health care and health expenditures.

Among the most difficult problems we will face will be nursing home care, both in terms of demand and financing. NCHS and a number of other researchers, including Feldman and Rice, and actuaries at the Social Security Administration, have made projections of health services and health expenditure. Of course, it's very difficult to accurately forecast what's going to happen in the future in terms of medical research, new technology, and changes in the structure of the health care system. I am not an expert in these areas, and I know that they will be discussed more fully on Thursday.

I appreciate the opportunity to present my statement on mortality and mortality change. Thank you.

[The prepared statement of Mr. Rosenberg follows:]

PREPARED STATEMENT OF HARRY M. ROSENBERG

Thank you, Mr. Chairman and members of the Committee. I am Harry M. Rosenberg, Chief of the Mortality Statistics Branch of the National Center for Health Statistics. I am pleased to be with you today to discuss changes in the mortality experience of Americans and the impact of these changes on the aging of the U.S. population.

The National Center for Health Statistics (NCHS) is the Federal government's principal general purpose health statistics agency. Data systems of NCHS address the full spectrum of concerns in the health field from birth to death, including overall health status, life style and exposure to unhealthful influences, onset and diagnosis of illness and disability, and use of and expenditures for health care and rehabilitation services. Over a dozen surveys and data systems are maintained by NCHS, which tailors many of these systems to address specific issues related to the elderly population. Along with the Bureau of the Census and the National Institute on Aging, NCHS is a leading member of the recently-formed Interagency Forum on Aging Statistics, which will identify and address unmet statistical needs of this growing segment of the U.S. population.

Through the cooperative Federal-State national vital statistics system, NCHS produces and publishes the nation's statistics on mortality--including death rates, life expectancy, infant mortality, and causes of death--from information reported on death certificates filed in each of the States. Monthly mortality data are published in the Monthly Vital Statistics Report, and annual data on mortality published in the Vital Statistics of the United States. Summary data on mortality also appear in Health, United States, the Secretary's annual report to the Congress.

In my statement, I shall focus on overall mortality trends and patterns, major causes of death, factors associated with mortality, and the future of U.S. mortality; and briefly touch on some implications for health care.

Overview

While the major influence on population growth and structure continues to be births, changes in mortality contribute to growth of the total population, but more importantly and significantly to the growth of the elderly population in the U.S. In 1985, an estimated 3,749,000 children were born in the U.S. and an estimated 2,084,000 persons died, resulting in the addition of 1,665,000 persons due to natural increases (that is, births minus deaths).

Current mortality trends in the U.S. are generally encouraging (Chart I). Since the late 1960's, our country has been recording relatively large declines in mortality after more than a decade of very slow reduction in the death rates. Current declines characterize virtually all age groups of both sexes and both major race groups--white and black. We have seen a gradual narrowing in mortality between the race groups, as death rates for the black population decline more rapidly than those for the white population. Women continue to outlive men by several years, though this differential, after widening for many years, is now narrowing.

As a result of the decline in death rates, a full year was added to the expectation of life at birth in the United States between 1980 and 1984. In contrast, only 1.1 years were added during the entire 1960-1970 decade. For 1984, the latest year for which such figures are available, average length of life at birth in the U.S. stood at a high plateau of 74.7 years.

Improvement in the nation's mortality is reflected in a number of indicators, including life expectancy, age-adjusted death rates, and infant mortality rates. The rapid reductions in U.S. mortality since the late 1960's reflect to a large degree the continuing decline in cardiovascular disease mortality, in particular, deaths from heart disease and stroke, two of the three leading causes of death. Mortality from cancer--the second leading cause--has not declined. While infant mortality has reached new lows, a slow-down in the rate of decline has been observed since the early 1980's. The nature, extent, and reasons for the slowdown are not yet understood.

We do not know how long the decline in mortality in the U.S. will continue, but the indicators of continuation are quite strong. Continuing reductions in mortality, combined with the prevailing low levels of fertility, and moderate immigration to the U.S., can be expected to result in modest overall U.S. population growth, but in significant long-term effects on the age structure of the population, in particular, relatively rapid growth in the size of the elderly population.

I shall examine these trends further with you using final mortality data available through 1983, and provisional mortality data available through April 1986.

General Mortality Trends and Patterns

As Chart I shows, for over five decades, since 1930, death rates in the U.S. have declined reflecting improvements in sanitation, nutrition, housing, medical care, and real income. The age-adjusted death rate portrays this trend of improving mortality more accurately than the crude death rate. The age-adjusted death rate adjusts for the age structure of the population, which changes over time, and varies among population groups and geographic area. It is, therefore more appropriate than the crude death rate for making mortality comparisons.

Three distinct periods of mortality change are apparent: through about 1954, mortality in the U.S. declined fairly steadily; it then leveled off through the late 1960's, after which the trend has again been downward. In 1984, the age-adjusted death rate reached on all-time low in the U.S. of an estimated 547.7 deaths per 100,000 population. Periodic fluctuations in the annual death rate, as in 1980, reflect the impact of influenza outbreaks. Throughout this period, improvements in mortality were shared by both males and females of both major race groups, through improvements were greater for the black population, which had much higher death rates initially, and for women as compared with men.

The expectation of life at birth in the U.S. reached a record high of 74.7 years in 1984 continuing the general upward trend observed for many years (Chart II). For 1984, record highs were reached for males and females of both major groups; for white females, 78.8 years; white males 71.8 years; black males 65.5 years; and black females, 73.7 years. At age 65, an American in 1984 could still expect to live an average of 16.8 years, or to age 81.8. In 1984, the life expectancy of American women was about 7.2 years longer than that of men. The difference was 7.8 years during the 1970's; 6.5 years in 1960; and 5.5 years in 1950. Between the white and black populations, the gap in average length of life has narrowed; but in 1984, a black infant could be expected to live an average of 5.6 years less than a white infant. To illustrate how wide the gap in life expectancy between the races is, one can say that the mortality of the black population is a generation behind that of the white population. It took over a quarter of a century for life expectancy of the U.S. population to achieve the most recent increase of 5.6 years, which is the difference in average length of life between the white and black populations.

The risk of death is closely associated with age; death rates tend to increase with age, such that the greatest proportion of deaths is among the elderly (Chart III). In 1984, over 70 percent of annual deaths were to persons 65 years and over, while fewer than 5 percent were to persons under 25 years of age.

Improvement in mortality since the late 1960's, when the most recent period of rapid decline began, have been shared by all age groups, even among the younger population for whom death rates were already very low. Among age groups 65 years and over, death rates were cut by at least 20 percent.

Major Causes of Death

Chronic diseases have largely supplanted acute and infectious disease as major causes of death in the United States, in particular among the elderly. In 1984, the three leading causes of death--heart disease, cancer, and stroke--accounted for two of ever three deaths in the U.S., and 15 causes major accounted for about nine of every ten deaths (Chart IV).

Trends in two of the leading causes of death--heart disease and stroke--account in large measure for the continuing improvement in life expectancy and overall U.S. mortality. During 1950-84, the age-adjusted death rate for heart disease declined by over 40 percent (40.4 percent), while the rate for stroke declined by over 60 percent (61.4). In contrast, the rate for cancer--the second leading cause of death--increased by 6.1 percent during this period (although mortality from certain cancers has declined, this decline has been more than offset by increases for respiratory cancer mortality). Of the estimated 2,047,000 deaths in 1984, almost half (47.6 percent) were from heart disease; 22.1 percent were from cancer; and 7.6 percent were from stroke.

Death rates from many of the other leading causes of death have reinforced the downward thrust of mortality from heart disease and stroke. Rates for some other major causes, such as homicide and septicemia (blood poisoning), have moved in the opposite direction, dampening the overall downward trend in mortality.

Socioeconomic Differentials in Mortality

A broad variety of factors are believed to account for differentials in mortality observed among geographic areas, between population groups, and over time. Among these are life-style, health care utilization, environmental and occupational exposures, and socioeconomic status. A study by Kitagawa and Hauser showed that persons in families of low income had a considerably elevated risk of mortality as compared with persons in families of higher income in 1960, the most recent year for which such national data are available (Chart V). For white male family members, aged 25-64 years, in families with less than $2,000 annually at that time, the mortality ratio was 50 percent above average, compared with ratios 16 percent below average for males in families with the highest income. Females had a similar pattern. Similar differentials were observed by educational attainment and by occupation. The impact of income and other socioeconomic variables diminishes with increasing age. More recent data from England and other countries indicates that such socioeconomic differentials have persisted since 1960. NCHS is currently working with the National Heart, Lung, and Blood Institute and the Census Bureau to obtain more current information on such socioeconomic differentials in mortality.

While it is not known precisely how socioeconomic factors are related to mortality, they are related to differences in illness, in risk factors such as smoking and exercise, and in health care utilization. To the extent that improvements occur in average socioeconomic status of the U.S. population, it can be expected that mortality will continue its downward trajectory; but differentials by occupation, education, and income may, nevertheless, persist as they have in the past.

The Future of U.S. Mortality

There is considerable room for improvement in U.S. mortality on the basis of comparisons of U.S. mortality with that of other countries, and even among the States in the U.S. (Chart VI). Compared with other industrialized nations, around 1980 U.S. life expectancy ranked 15th for males and 8th for females. The differences in life expectancy for females in Norway, the highest ranking country, and the U.S. was 1.4 years; and for males, 3.8 years between that of Japan, the highest ranked country, and the U.S. Even within the U.S., differentials in life expectancy occur among the States. For the period 1979-81, life expectancy in Hawaii, the highest ranking State was 77.0 years, as compared with Louisiana, the lowest ranking State, with a life expectancy of 71.7 years.

Moreover, there is considerable impetus for continuing reductions in mortality in the United States, based on mortality comparisons of groups of persons born at different times. For both white men and white women death rates from heart disease for persons born more recently (1906-1910) were considerably below those for persons born earlier (1896-1890). Because the mortality advantage of the more-recently born seems to prevail throughout life, it is likely that younger persons today will have much lower heart disease death rates as they age than persons born earlier. Finally, there is considerable room for additional improvement based on mortality differences among socioeconomic groups and geographic areas, and comparisons of U.S. mortality with that of other industrialized countries.

While questions of the ultimate biological limits of the life span are hotly debated, the present tempo of improvement in mortality does not suggest that this is an imminent concern. We must, however, be cognizant that life extension may be associated with an appreciable lengthening of the duration of illness and infirmity for at least some parts of the population, and that this may have major implications for health and social services, as well as for families with ill or disabled older persons.

To examine the implications of mortality decline, NCHS made illustrative projections of mortality (Chart VII). While making projections is at best a hazardous undertaking, it can be highly instructive, and is often necessary to anticipate possible consequences of present trends. We made two illustrative projections to the year 2003, which was exactly 25 years from a benchmark year of 1978. (In another study, we used mortality projections prepared by the Social Security Administration). One projection was designed to be "conservative," that is, assume the worst mortality scenario, which would be no change in mortality from present levels; it assumed no change in death rates by age and sex from the levels prevailing in the benchmark year. The other projection was designed to be "optimistic," that is, to describe what we felt might happen under the best circumstances, which would be continuation of recent downward trends in mortality; it assumed continuation of the rates of mortality improvement observed during 1966 through 1976. Our judgment was that these two assumptions would define the outside limits of what might really happen in future years in terms of mortality trends in the U.S. The implications of these projections, under the optimistic assumption, are an increase in life expectancy for females to 84.2 years by 2003, and an increase for males to 74.2 years. Under the pessimistic assumption, life expectancy would remain unchanged from current levels.

Future mortality declines would have consequences for both population change and health care. These were examined in the NCHS study, which also made certain assumptions about future levels of U.S. fertility and immigration. While the total size of the future population would not differ greatly under the two different assumptions of future mortality, the declining mortality assumption does result in a much larger older population (Chart VIII). Under the constant mortality assumption, the U.S. population would increase by the year 2003 to 271.6 million persons; under the declining mortality assumption, its size would be 279.9 million, only 3 percent larger. Under the declining mortality assumption, the population aged 65 years and over would increase almost twice as fast as under the constant mortality assumption, 58.5 percent compared with 34.5 percent. The difference in growth rates is even more pronounced for the extreme elderly, 213.2 percent under the declining mortality assumption compared with 84.3 percent for the constant mortality assumption. As a result of probable reductions in mortality, the proportion of the total population accounted for by the elderly can be expected to increase considerably by the end of the century. Assuming that current improvements in mortality continue their present pace, the NCHS study showed that the proportion of the population aged 65 years and over would increase from 10.8 percent to 13.6 percent by 2003.

Implications of Declining Mortality

In summary, since the late 1960's the U.S. has experienced rapid reductions in mortality, attributable in large part to reductions for heart disease and stroke. As a result, life expectancy has reached record levels for men and women, and the size of the older population has increased both in numbers and as a percentage of the population. Since we have reason to believe that the decline in mortality rates will continue, it is likely that we will have significant increases in the older population into the next century.

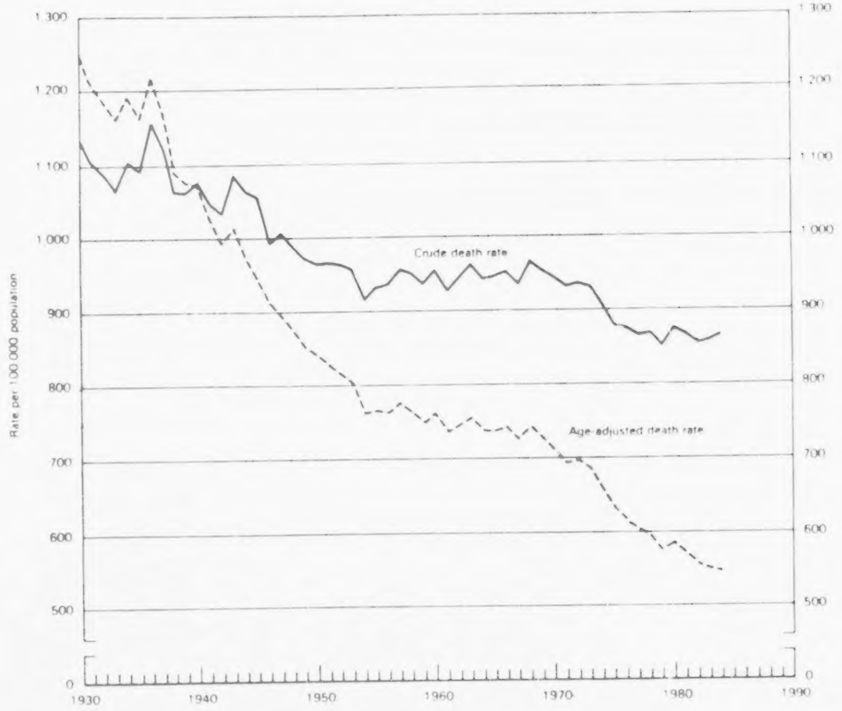
My primary purpose this morning has been to describe mortality trends and the impact on the composition of the population of the United States. However, it is impossible to ignore the implications that an increase in the older population will have in terms of health and our social and economic structure, and I want to touch briefly on some of these implications.

In terms of health and health care, older persons in general have more health problems than younger persons, and further declines in mortality rates are likely to result in increases in disability, dependency, health care, and health expenditures. Among the most difficult problems we will face will be nursing home care, both in terms of demand and financing considerations. NCHS and a number of other researchers including Feldman and Rice, and actuaries of the Social Security Administration, have made projections of the use of health services and health expenditures; others have explored related impacts, including retirement. Of course, it is difficult to accurately forecast future developments given likely changes in medical research, the introduction of new technologies, or changes in the structure of the health care system. As I am not an expert in this area, I will defer to those witnesses who will appear before the Committee as your hearings continue.

I appreciate the opportunity to be a part of your review of this important area, and I will be happy to answer any questions you may have.

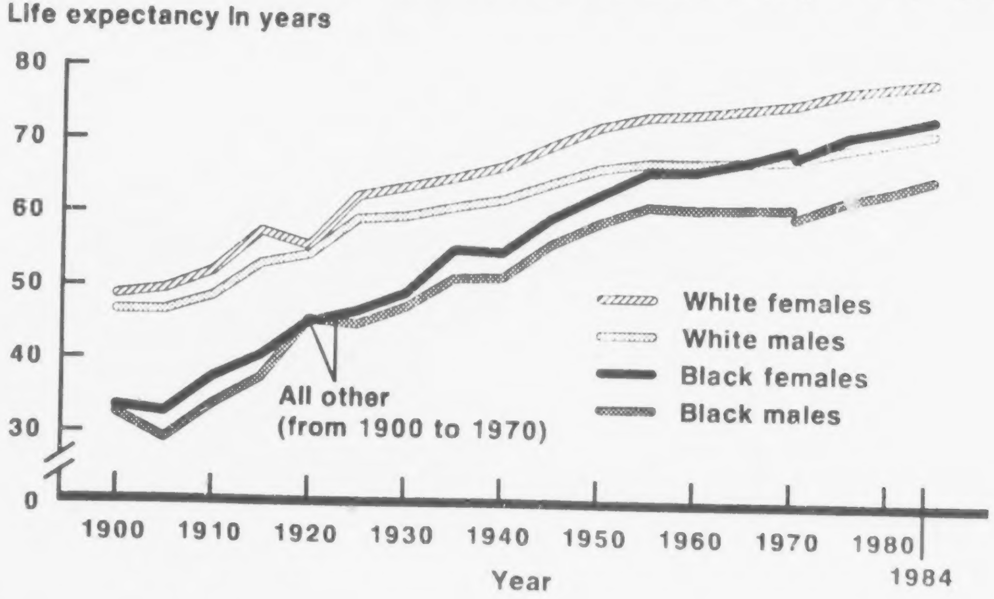
Chart I

Crude and age-adjusted death rates, 1930-84



SOURCE: National Center for Health Statistics

Chart II
Life expectancy at birth by race and sex, 1900-84



SOURCE: National Center for Health Statistics

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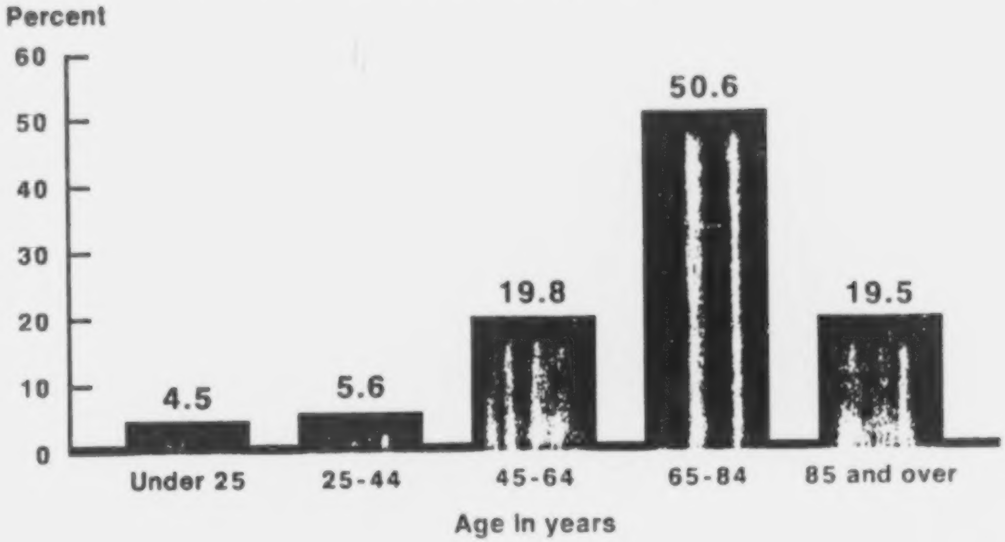
Chart III
Percent of deaths by age, 1984



SOURCE: National Center for Health Statistics

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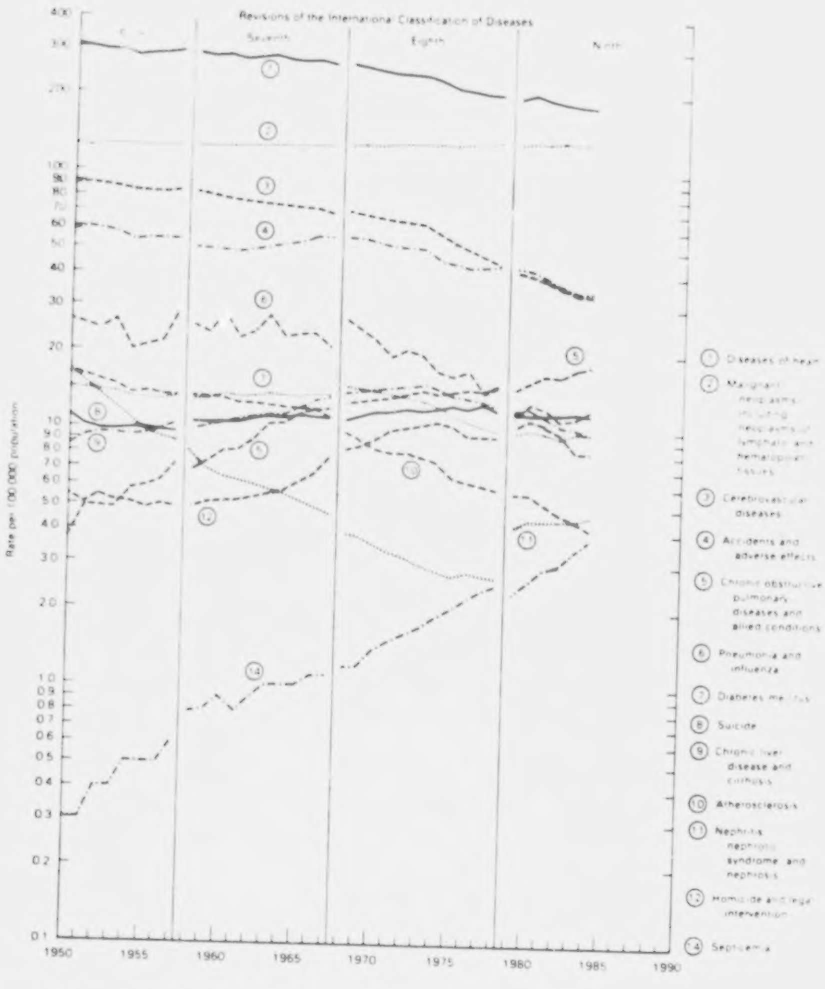
Chart IV

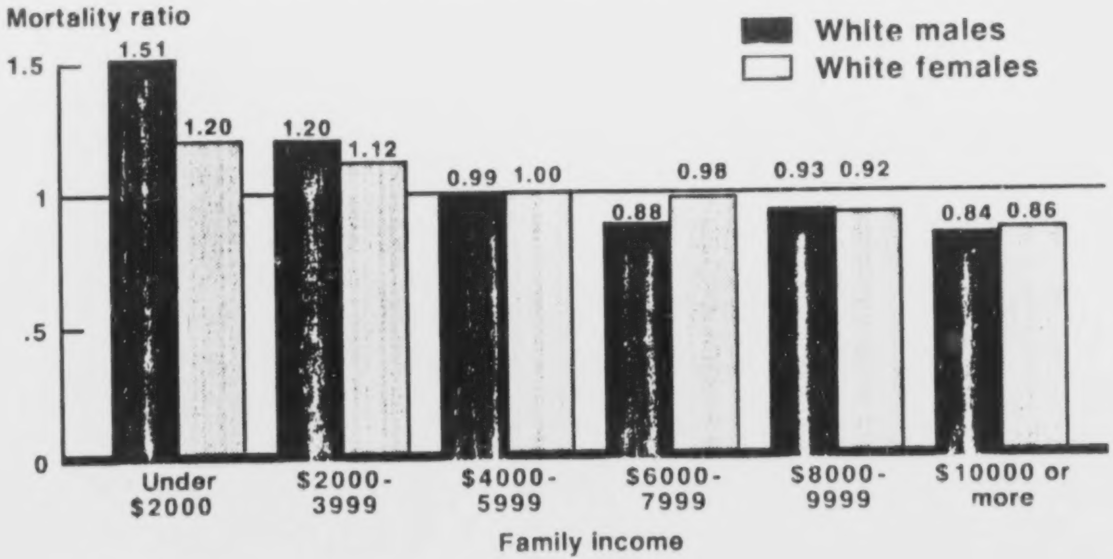
Age-adjusted death rates for 13 of 15 leading causes of death, 1950-84



SOURCE: National Center for Health Statistics

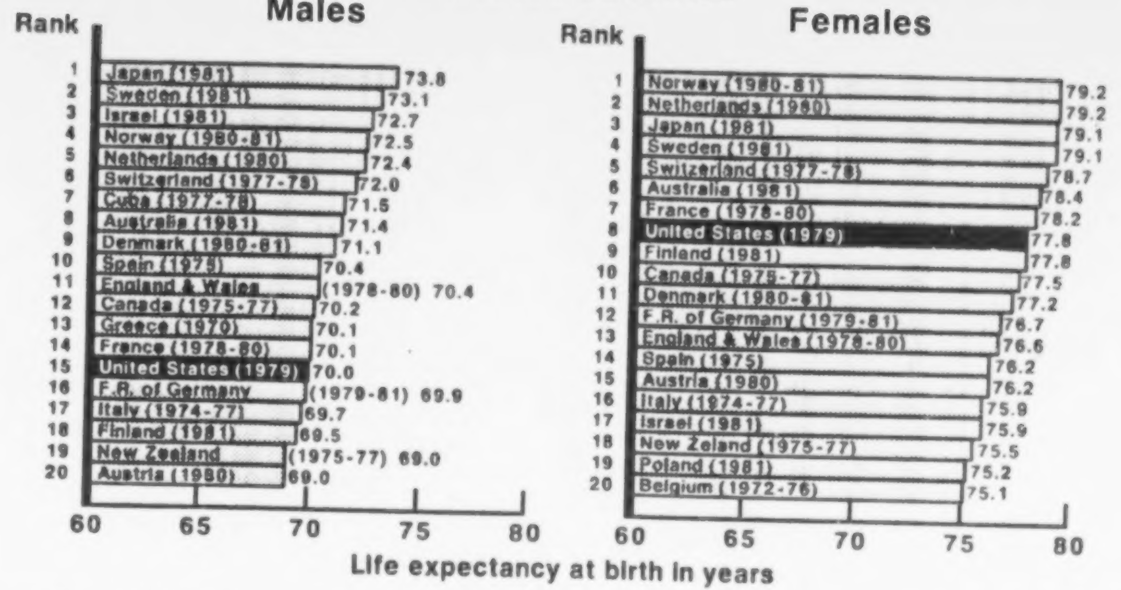
Chart V

Mortality ratios by family income level for persons aged 25-64 years, May to August, 1960



SOURCE: Kitagawa and Hauser, 1973

Chart VI
Life expectancty at birth, by sex
Selected countries



SOURCE: United Nations Demographic Yearbook, 1982

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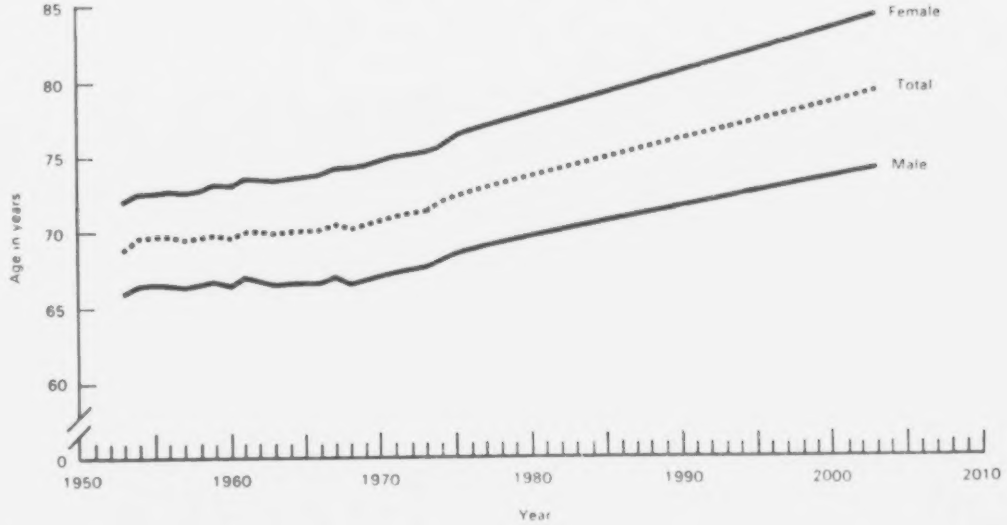
Chart VII

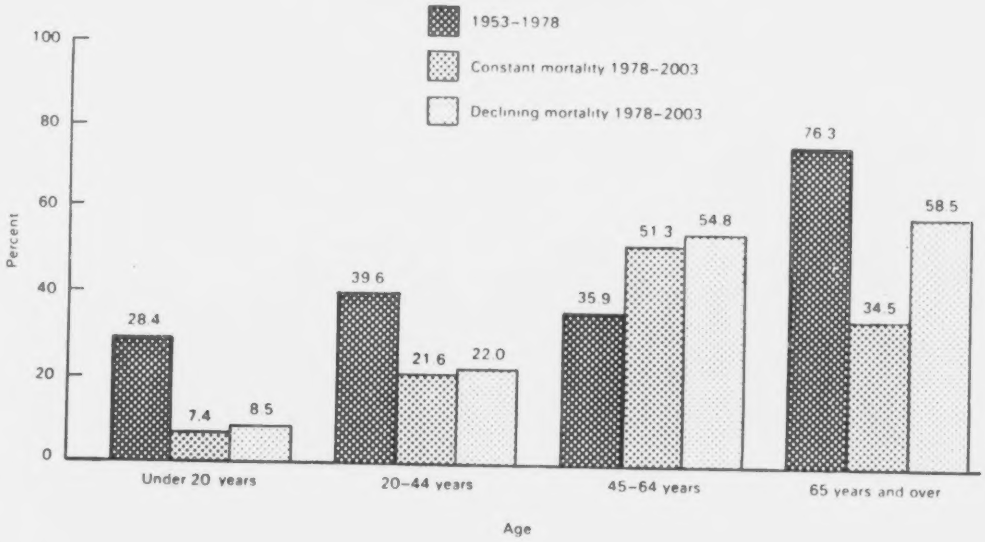
Life expectancy, 1953-2003



SOURCE: National Center for Health Statistics

Chart VIII

Percent increase in population by age, 1953-78 and 1978-2003



SOURCE: National Center for Health Statistics

Representative SCHEUER. Well, thank you, Mr. Rosenberg, for your very excellent testimony.

You talked to us about the ranking of the U.S. for men, for women, and infants, and life expectancy at birth and infant mortality.

How do you explain these differences between us and—I presume you're comparing the countries that have a more successful experience than we do, I presume with developed countries. How do you explain it?

Mr. ROSENBERG. I don't think there's a simple explanation. I think there are a host of factors, including differences in the medical care delivery system, differences in health care utilization, differences in access, differences in socioeconomic status—I think all of those constellation of factors are associated with the differences we see.

In terms of infant mortality, there are some interesting findings and research in this area. Some of these differences are probably associated with fertility differences between the United States and some of the other countries. In terms of the survival of very small infants, the U.S. has a relatively good record compared with other countries.

But the United States has a different mix of children who are at risk in terms of the age of the mother and the number of children that the mother has had. So many of the differences that we see in terms of infant mortality in the United States reflect a great deal about the characteristics of the parent. But if you look at children born in the United States, they do very, very well, in terms of risk of infant death, given the state of health care technology for very low birthweight infants. The differences that we see in infant mortality among countries seem to be related in part to differences in the characteristics of parents, and there are vast differences, in such characteristics among countries.

Representative SCHEUER. Now your tables indicate that blacks have a lower life expectancy than whites, although black women have a better life expectancy than white men I notice. Is the lower life expectancy for blacks something that can be influenced by public policies, by government programs? Can Congress do something that will alter the seeming disadvantage under which blacks live out their lives in terms of life expectancy? What can we do?

Mr. ROSENBERG. I think that, while the risk factors that characterize these differences are the same, the level of risk of these different population groups is different. We talked about socioeconomic factors. Socioeconomic factors appear to play a very large role accounting for race differences in life expectancy. Educational attainment, type of work, and income play a major role in accounting for differences in length of life. To the extent that differences in these factors persist between the black population and the white population including, as you indicated, educational attainment, we can say they do have an impact. And to the extent that they are amenable to public policy, I would think that they would have an impact on the differences that we see.

Representative SCHEUER. Then, of course, there's some behavioral differences, too. I think smoking is admittedly and demonstrably becoming a lesser habit of educated, executive, professional classes and more a working class—a blue collar habit, and even more, a poverty habit, tragic as that may seem. And I suppose it has a deleterious effect on the black and Hispanic community to the extent that they are disproportionately represented in low-income, low education groups. Would that not be so?

Mr. ROSENBERG. Yes, sir.

Representative SCHEUER. And one of the tragic things globally is that the greatest increases—there's been a decrease of smoking in this country and I presume other countries around the world in the educated managerial class, let us say, and a vast increase in smoking in the developing world among the poorest of the poor. There is experience that indicates that in developing world countries where young parents can't afford to send their kids to school because they don't have shoes, they don't have clothes, they don't have books, they don't have the tiny little fee that may be charged to go to elementary school, the father may get a job in a mine or on a farm or what not, and the first disposal income that he gets he'll buy a carton of cigarettes before he equips his kids to go to school.

Is that something that's crossed your desk and you've heard about?

Mr. ROSENBERG. I have heard stories to that effect and we have some evidence of differences in the smoking patterns by socioeconomic status that support your contention.

Representative SCHEUER. And of course, the effect of cigarette advertising in the developing world aimed at the masses of people who are low-income has a disproportionate effect because they haven't learned about the deleterious effects of smoking, they don't have the warning sign on the label, they aren't subjected to the miniscule amount of PSA's that we have on radio and television, the so-called public service announcements, and so they have an inundation of pro-smoking media pressure and none of the health education inputs that we have in our society—school, on the cigarette package itself, and in the media.

Domestic experience indicates that there is a significant difference in life expectancy among smokers and nonsmokers as a group.

Mr. ROSENBERG. While at the national level we don't have current statistics on life expectancy of high smoking consumption, we do know a great deal about the mortality from those diseases that are associated with smoking, in particular, respiratory cancer and chronic obstructive pulmonary diseases, which are among the major causes of death in this country. We know that there are cohort differences in smoking patterns, and we do see differences in death rates from these diseases. We don't have the direct evidence, but we do have compelling indirect statistical evidence that life expectancy is affected by cigarette consumption.

Representative SCHEUER. Well, now 350,000 people die each year supposedly due to smoking. Does that not have an input into your mortality statistics? Isn't there an interface between that fact and the generality of your mortality statistics?

Mr. ROSENBERG. I would agree that it does, that there is a logical consistency. All I'm saying is that I don't have the direct national data that would provide the basis for making that statement myself.

Representative **Scheuer**. Is there any effort underway to develop that information?

Mr. **Rosenberg**. Yes. The National Center for Health Statistics is planning a national survey which will include statistics on both cigarette smoking patterns as well as mortality, and we will have some direct statistical evidence. We have some historic data that is somewhat dated, but we do have a national survey that should very soon provide evidence on that.

Representative **Scheuer**. When will the results be in?

Mr. **Rosenberg**. I would say probably in 2 or 3 years we will have sound national figures.

Representative **Scheuer**. That may be very soon by your time frame, but by our time frame that's not so soon, not soon enough.

Will you be able to get a preliminary clue of what the findings are likely to be before 2 or 3 years?

Mr. **Rosenberg**. We already have more limited geographic studies that provide the basis for those types of estimates that you gave. Those estimates are made from sound studies, but they are not necessarily nationally representative.

Representative **Scheuer**. Would it be fair to extrapolate those studies to the Nation as a whole?

Mr. **Rosenberg**. That has been done and those are scientifically sound, in my judgment.

Representative **Scheuer**. If you would provide them to the subcommittee we would be very much interested in receiving that.

Do those studies include active smokers as well as the so-called passive smokers, indirect smoking—people who ingest tobacco smoke from other people's smoking and who don't enjoy the fortuitous advantages of the filter even?

Mr. **Rosenberg**. I will have to investigate that. I'm aware of studies that have been done by such groups as the Office of Technology Assessment, and I will submit those for the record as I find them.

[The following information was subsequently supplied for the record:]

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

National Center for Health Statistics
3700 East-West Highway
Hyattsville MD 20782

September 2, 1986

The Honorable James Scheuer
Joint Economic Committee
Washington, DC 20510

Dear Mr. Scheuer:

Per your request, I am providing the following information as a followup to my testimony at the July 25 hearing of the Subcommittee on Economic Resources, Competitiveness, and Security Economics:

Cigarette Smoking and Mortality

As I mentioned at the hearing, national mortality statistics do not provide us with direct evidence of the impact of smoking on mortality. This is true because death certificates do not routinely provide us with information on the smoking status of individuals. While the death certificate allows a physician to record the judgement of whether smoking contributed to the death, very few physicians enter this type of information. In 1983, for example, tobacco abuse was mentioned on only 2,914 records out of over 2 million deaths. As a consequence, estimates of the impact of smoking on mortality are generally derived from smaller studies or indirect estimation procedures.

I referred to two efforts the National Center for Health Statistics (NCHS) is making to provide more direct information, including two national surveys that will provide statistics on cigarette smoking and mortality.

The first is the NHANES I Epidemiologic Followup Study, which we are conducting in collaboration with a number of other Public Health Service agencies. This study uses the first National Health and Nutrition Examination Survey (NHANES I), conducted from 1971 to 1975, as a baseline for a longitudinal study of morbidity and mortality. Since smoking status was measured for this population in 1971-75 and in recent followup interviews, it will be possible to study morbidity, mortality, and hospitalization associated with smoking status. Initial results of this study will be available in Spring 1987, and we plan continued followup of this population in the future.

The second survey is the 1986 National Mortality Followback Survey, through which we will expand our knowledge of the factors associated with mortality by obtaining a greater depth of information about a sample of decedents than is available on the death certificates. An important segment of the 1986 survey will address smoking practices, and initial results are expected to be available in the Fall of 1988.

A similar National Mortality Followback Survey conducted in 1966-68 included a major focus on the effects of cigarette smoking. This survey revealed that white males that never smoked cigarettes had a total age-adjusted cancer death rate 37 percent less than that of males as a whole, and 53 percent less than that of males that smoked at the time of their death. For white females, those who never smoked cigarettes had a total age-adjusted cancer death rate which was 15 percent less than females as a whole and 33 percent less than that of those who smoked.

As you might expect, the relationship between cigarette smoking and health has been widely studied, and a wealth of epidemiologic and statistical studies bear on this issue. Since 1964, the Surgeon General has issued 17 reports on the health consequences of smoking, which provide an overview of the evidence linking cigarette smoking and adverse health outcomes, including mortality. Recent reports have addressed cancer (1982), cardiovascular disease (1983), chronic obstructive lung disease (1984), and cancer and chronic lung disease in the workplace (1985).

Since these reports are quite large and, therefore, not suited for inclusion in the record of the hearing, I will take the liberty of providing you with a select number of excerpts from the conclusions related to mortality:

> Cancer Mortality (1982, p. 5)
>
> Cigarette smokers have overall mortality rates substantially greater than those of nonsmokers. Overall cancer death rates of male smokers are approximately double those of nonsmokers; overall cancer death rates of female smokers are approximately 30 percent higher than nonsmokers, and are increasing.
>
> Overall cancer mortality rates among smokers are dose-related as measured by the number of cigarettes smoked per day. Heavy smokers (over one pack per day) have more than three times the overall cancer death rate of nonsmokers.
>
> With increasing duration of smoking cessation, overall cancer rates decline, approaching the death rate of nonsmokers.
>
> Cardiovascular Disease (1983, pp. 6 and 7)
>
> Overall, cigarette smokers experience a 70 percent greater coronary heart disease (CHD) death rate than do nonsmokers. Heavy smokers, those who consume two or more packs per day, have CHD death rates between two and three times greater than nonsmokers.
>
> Cigarette smoking has been estimated to be responsible for up to 30 percent of all CHD deaths in the United States each year. During the period 1965 to 1980 there were over 3 million premature deaths from heart disease among Americans attributed to cigarette smoking.

Chronic Obstructive Lung Disease (1984, p. 10)

> Data from both prospective and retrospective studies consistently demonstrate a uniform increase in mortality from chronic obstructive lung disease (COLD) for cigarette smokers compared with nonsmokers. Cigarette smoking is the major cause of COLD mortality for both men and women in the United States.

Passive Smoking

The health effects of "passive smoking" (non-smoker's exposure to environmental tobacco smoke) has been the subject of considerable attention in recent years, including several Congressional hearings during the past year. National mortality statistics are not available on passive smoking (since death certificates have no information on exposure), and statistics are not available from other national surveys conducted by NCHS. However, numerous epidemiologic studies have recently addressed this topic. I have attached for your reference a staff paper prepared in the Office of Technology Assessment, "Passive Smoking in the Workplace: Selected Issues." Before dealing with specific issues related to the workplace, the paper reviews available studies of the health effects of passive smoking. The Executive Summary distills these studies in the following manner:

> In summary, the evidence for an association of passive smoking with lung cancer has accumulated during the 1980's, and is consistent with the biologically plausible hypothesis that passive exposure to tobacco smoke can cause cancer. There is evidence that environmental tobacco smoke is an acute respiratory irritant in health adults. Relatively strong evidence also supports an association of parental smoking and respiratory infections and symptoms in their children; few studies of this type have been carried out for adults, but the evidence that exists points to a similar relationship. People with preexisting heart or lung disease can be especially sensitive to the effects of passive smoking.

Thank you again for the opportunity to review trends in mortality with you at the Subcommittee's hearing. Please let me know if I can provide you with any additional information.

Sincerely,

Harry Rosenberg, Ph.D.
Chief, Mortality Statistics Branch
Division of Vital Statistics

Representative SCHEUER. I appreciate that very much. You have been very, very patient. You've been here now for 3 hours and I'm tremendously grateful to you both for your patience and very stimulating testimony.

We do have a number of additional questions and we will submit them to you by mail and we'll hope in the next 10 or 12 days you can get some of your very thoughtful answers to us. Thank you so much for your fine testimony this morning.

The subcommittee will stand recessed.

[Whereupon, at 12:25 p.m., the subcommittee recessed, to reconvene at 9:30 a.m., Tuesday, July 29, 1986.]

APPENDIX

Response to Question from
Subcommittee on Economic Resources, Competitiveness,
and Security Economics
to
Cynthia Taeuber
Population Division
on
Economic Implications on the Aging Population
July 25, 1986

QUESTION 1. During your appearance before the Subcommittee, you mentioned that the median income in New York for elderly men and women was $7,300 and $4,000, respectively. How do these figures compare with the rest of the country and with other major U.S. cities?

ANSWER: Median income for men and women in the State of New York and the metropolitan area of New York was similar to that of the Nation and other major metropolitan areas. The median income figures cited are for the State of New York and are from the 1980 census. For the United States as a whole, median income in 1979 was $7,023 for men 65 years and over and $5,601 for women 65 years and over. Similar figures are shown in the table below for illustrative standard metropolitan statistical areas (SMSA).

	Population 65 years and over	
SMSA	Males	Females
New York	$7,443	$4,022
Chicago	8,474	4,384
Los Angeles	7,822	4,440
Atlanta	6,761	3,533
St. Louis	7,673	3,997
Houston	7,874	3,621

Responses to Questions from
Subcommittee on Economic Resources, Competitiveness,
and Security Economics
to
Gregory Spencer
Population Division
on
Economic Implications on the Aging Population
July 25, 1986

QUESTION 1: What are the projections for the racial and ethnic composition of New York City and New York State over the next two generations?

ANSWER: The Census Bureau has no data after the 1980 census by race or ethnicity for New York City or New York State. However, we are working on a revised set of state population projections that will include projections of the population (to the year 2010) for each state by race group (White, Black, Other Races), age, and sex. We expect these projections to be available by spring 1987. We will not have any projections for the ethnic composition of New York State nor any projections below the state level. Also, by spring 1987 we should have completed estimates of the racial and ethnic composition of New York State and the New York Metropolitan Statistical Area for the period 1980-1985. In the meantime, you may want to check with the State Data Center, New York State Department of Commerce, One Commerce Plaza, Albany, New York 12245 or Population Analysis Division, Department of City Planning, 21st Floor, Room 2107, 2 Lafayette Street, New York, New York 10007 for additional information about New York State and New York City.

QUESTION 2: What are the implications of that change for the City of New York and the State of New York?

ANSWER: We have not examined any projections of the racial or ethnic compositions of New York State or New York City. However, we do have available some projections of the population of the United States by race. Between 1985 and 2000, the White population of the United States is projected to increase by 9.6 percent. For that same period, the Black population is projected to increase by 23 percent while the population of races other than White and Black will increase by 48 percent. These differences in growth are projected to continue well into the next century. Since the growth rates of the Black and Other Races population are higher than those of the White population, the proportion of the population that is Black and Other Races would continue to rise. In 1985, the population of Black and Other Races comprised almost 15 percent of the total population. This percentage is projected to reach 16.9 percent in 2000, 20.7 percent in 2030, and 25.5 percent in 2080.

Current estimates of the U.S. Spanish-origin population show that Hispanics make up 7.5 percent of the population. Projections of the Spanish-origin population beyond 1985 should be completed and released in December 1986.

Work Ability of the Aged under Conditions of Improving Mortality*

JACOB J. FELDMAN

National Center for Health Statistics,
U.S. Department of Health and Human Services

THE DESIGNATION OF A NORMAL RETIREMENT age has been linked to the age at which people are no longer "sufficiently healthy to function in their jobs." This linkage was accepted by both the proponents and the opponents of raising the retirement age in the March 1981 report of the National Commission on Social Security. The majority position was: "The Commission anticipates that increased longevity will be accompanied by a corresponding increase in active life. . . . Expert opinion in the field of research on aging holds that the period of 'diminished vigor' associated with aging will decrease so that 'chronic disease will occupy a smaller proportion of the typical life span' " (National Commission on Social Security 1981, 126). On the other hand, a minority of the commission contended that "the evidence does not support any claims that longer life is equivalent to longer years of good health. . . . The evidence certainly does not support speculation that the incidence of *good* health is increasing" (National Commission on Social Security 1981, 331). Unfortunately, the current state of knowledge does not permit a definitive resolution of this controversy. I shall attempt, however, to clarify some of the issues.

We shall focus on the populations in the age groups between 50

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*Statement before the National Commission on Social Security Reform, June 21, 1982.

Milbank Memorial Fund Quarterly/*Health and Society*, Vol. 61, No. 3, 1983
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and 69 years of age because the experiences of these groups are most relevant to the issue of retirement age. As can be seen from figure 1, the death rates for women in this age range have been declining rather steadily since 1950. In fact, death rates for women of this age began to decline rapidly and steadily in about 1935, so this trend has been operative for nearly 50 years (Moriyama 1964). We can see from figure 2, on the other hand, that the rapid downward trend in death rates for men between 50 and 69 years of age has been in effect only for the past 15 years. We should also note that at each age in this range, the death rate for men is twice as high as the death rate for women.

It has been suggested that the decline of death rates for this age segment is tantamount to improved health or to a reduction in the prevalence of ill health and work incapacity (Clark and Barker 1981; Fibiger 1980). What light do the data shed as to the validity of this supposition? While definitive long-term trend data bearing on health status are not available, figure 3 permits us to examine short-term trends. We see there that the proportion of men in the 50 to 69 age segment reported as being unable to work because of illness increased between 1970 and 1980. Remember, this was the period of the rapid decline in death rates for men of that age. Furthermore, the fragments

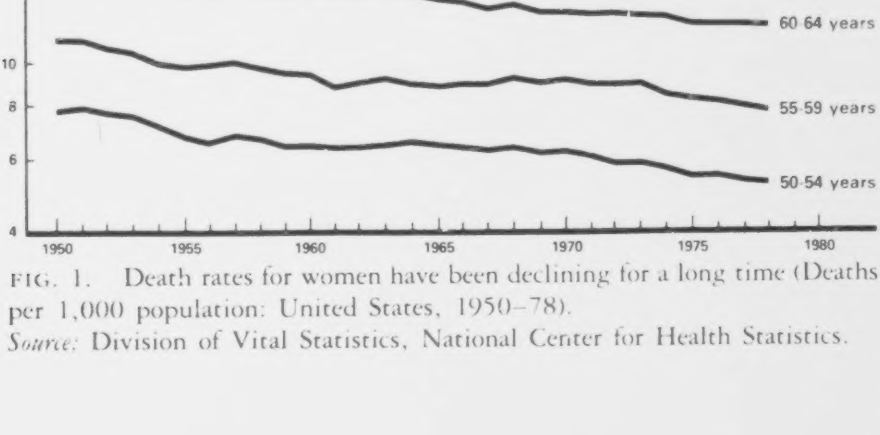

FIG. 1. Death rates for women have been declining for a long time (Deaths per 1,000 population: United States, 1950–78).
Source: Division of Vital Statistics, National Center for Health Statistics.

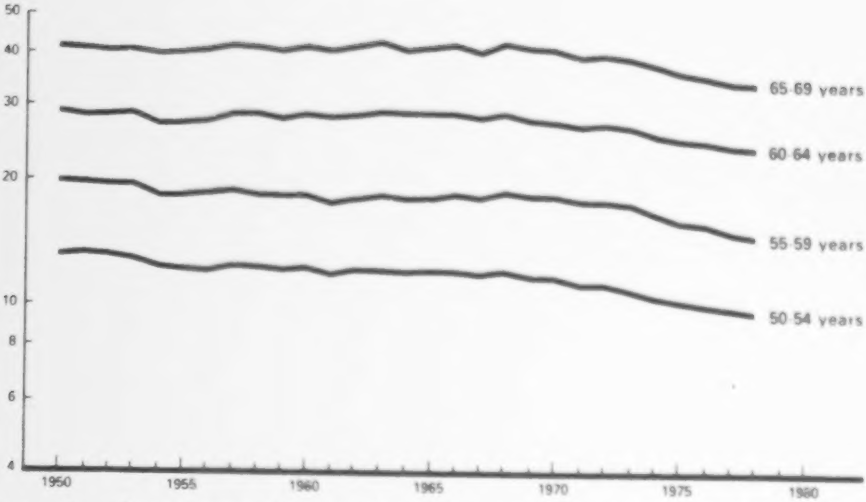

FIG. 2. Death rates for men have been declining since the late 1960s (Deaths per 1,000 population: United States, 1950–78).
Source: Division of Vital Statistics, National Center for Health Statistics.

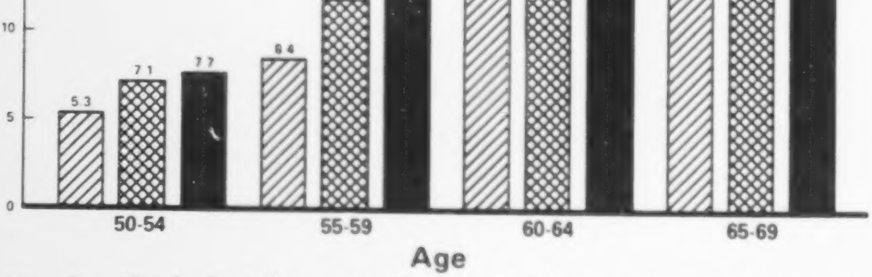

FIG. 3. Work disability rates for men have been increasing during the past decade (Percent unable to work: United States, 1970, 1975, and 1980).
Source: National Health Interview Survey, National Center for Health Statistics.

of available evidence regarding work-disability rates during earlier periods suggest even somewhat lower levels in the more distant past. For instance, for men aged 55 to 64, the rate of reported work disability in 1949 was about 10 percent (Woolsey 1950, 170, 178). [Approximately 12 percent of men aged 55 to 64 were reported as having been kept from working because of illness on the day of the interview. Since the data presented here for the recent period pertain to relatively long-term disability, the 1949 statistics must be adjusted. About three-fourths of those reported as disabled had been, by the day of the interview, disabled for 3 months or longer. This means that approximately 9 percent of all men in the age group had been disabled for 3 months or longer. The estimate of 10 percent in the text includes an additional correction for men with a disabling *chronic* condition that had its onset within 3 months prior to the interview.] The rate was apparently even lower in 1935 (Woolsey 1950, 183). Thus, rather than the predicted decline in the prevalence of work disability, we appear to have been experiencing an increase.

Some definitions are in order at this point. We are here defining a disabled person as one who is reported as not being able to work at all because of one or more chronic conditions. Examples of such chronic conditions would be coronary heart disease, arthritis, a musculoskeletal impairment due to an accidental injury or a stroke, and blindness. We are not restricting our definition to the totally and permanently disabled. We are counting cases here, however, only if they are relatively longstanding. Total recovery or rehabilitation for the disabled in the relevant age groups tends to be relatively rare, although partial recovery does occur rather frequently (Schecter 1979; Treitel 1979).

Some of the individuals who are here being counted as work disabled would probably, under the proper circumstances, be able to earn money at some type of employment; not all of them are totally disabled. However, these are individuals who are unable to perform the duties of a regular job of a type for which they appear suited.

Returning to the question at hand, how do we account for the increase in the prevalence of reported work disability that has been taking place concomitantly with the decline in mortality rates? While there are obviously a number of different factors at work (Wilson and Drury 1981), figure 4 can help us appreciate that a decline in mortality does not necessarily signify a decline in work disability. The schematic

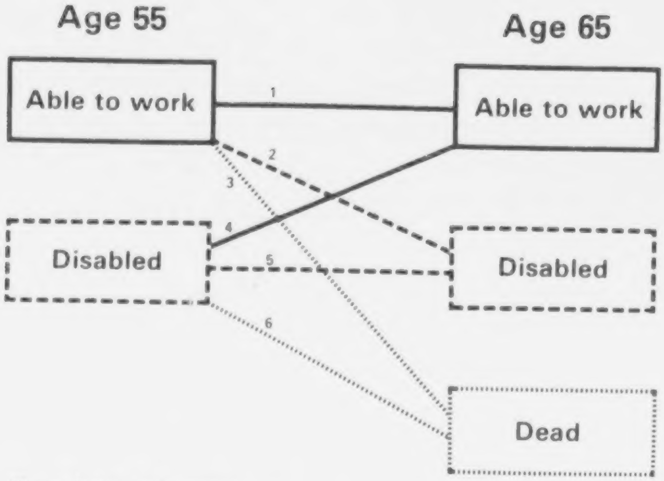

FIG. 4. Transition schematic.

represents what happens to a population cohort over a 10 year period, from age 55 to age 65. As one might expect, death rates among the disabled have generally been extremely high (Treitel 1979; Hennessey 1980; Croner and Haber 1974; Orcutt 1980). Thus, at earlier times, a substantial proportion of those disabled at age 55 would have died before reaching age 65. The pool of disabled at age 65 was limited in size because it was, in the main, composed only of individuals who had become disabled in the fairly recent past. This situation may very well have been changing since the late 1960s. The death rate from myocardial infarction (heart attacks) has been declining rapidly for both men and women in their fifties and sixties (Rosenberg and Klebba 1979). Myocardial infarctions are frequently the proximate cause of death, the coup de grâce, for individuals with other infirmities (Israel 1981). [On the basis of multiple cause-of-death tabulations, it is clear that most individuals who die of a myocardial infarction also have been suffering from other health impairments.] Reduced incidence and improved survival for myocardial infarction among the disabled would result in a major increase in the size of the pool of disabled at age 65, for instance. In terms of figure 4, it appears that what may have been happening is that the rate represented by stream 6 has been appreciably decreasing in size while the rate represented by stream 5 has been expanding, resulting in the marked accumulation of disabled individuals at older ages (Fries and Crapo 1981). [Fries and Crapo predict that a period of "increase in the number of years of impaired health per person" will precede the anticipated "compression of infirmity."]

I should now like to turn to the current situation as represented by figure 5. The steady rise of the prevalence of work disability with age is striking if not surprising. The rates in this chart can, of course, be viewed two ways. Combining the three educational groups, we might observe that, for instance, 24 percent of all men aged 65 through 67 are too disabled to engage in any gainful employment. Alternately, we might observe that 76 percent of men of that age are still able to work to some extent. It should also be noted, however, that in addition to the 24 percent of the men aged 65 to 67 reported as not being able to work at all, another 13 percent are limited in the kind or amount of work they can perform; this leaves 63 percent being reported as fully ablebodied with respect to work.

The other striking fact conveyed by this figure is the wide differential in work-disability rates according to educational attainment. At ages

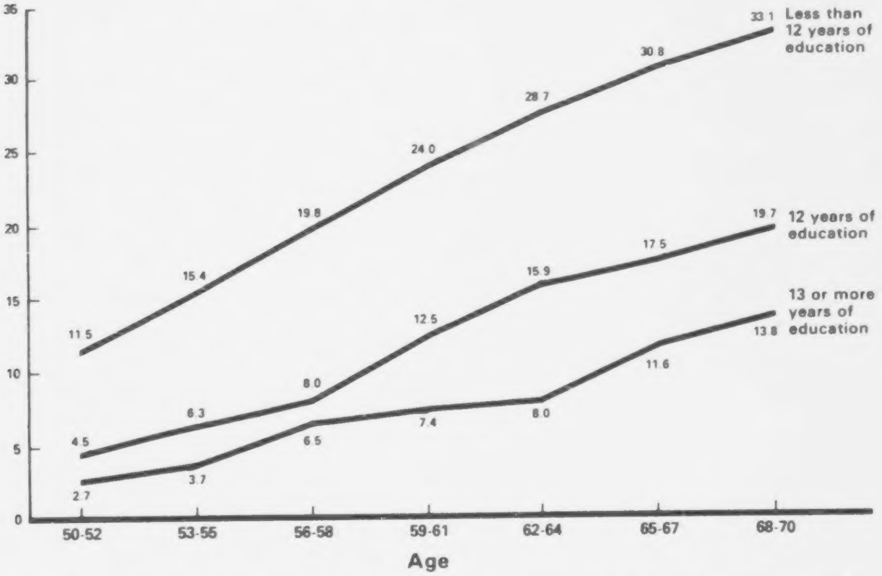

FIG. 5. Work disability rates for men increase sharply with age. The less educated experience the highest work disability rates. (Percent unable to work: United States, 1976–80).
Source: National Health Interview Survey, National Center for Health Statistics.

62 to 64, 29 percent of the men who had not been graduated from high school were unable to work because of a health problem; among men completing one or more years of college, only 8 percent had such a limitation due to health. Those with less education are likely to be in more physically demanding jobs than are those with more education. The less educated may also not have the skills necessary to be employed in a physically less demanding alternative job. There are a number of other explanations for these observed differences but they need not concern us here (Feldman 1982, 16). The central question facing this commission in this regard is whether the prevalence of work disability of people in their sixties will decline in the future as successively more highly educated generations pass through that age range. I know of no way to answer this question with any certainty. It would seem, however, that trends in the occupational and industrial structure of the economy would be as important as trends in educational attainment. It appears likely that there will remain in the future a substantial number of jobs that are physically or emotionally demanding. While service industries are projected to be the fastest growing employment sector, it should be kept in mind that strenuous work such as automobile repair and hospital nursing are expected to be rapidly growing components of the service sector. Similarly, rapid growth in employment opportunities is expected in eating and drinking establishments, jobs that also require considerable stamina (Personick 1981).

Differences in work-disability rates between men and women can be examined in figure 6. At each age, women are reported as having a higher prevalence of work disability than are men. As was pointed out in connection with figures 1 and 2, the death rates for men in this age range are twice as high as those for women. The discrepancy between the mortality and disability differentials confirms our contention that mortality rates are very poor indicators of work-disability prevalence rates across population groups or over time.

In figure 7, we observe the rapid increase with age in the prevalence of certain functional impairments. For instance, about 22 percent of all women between 35 and 44 years of age experience some trouble standing for long periods; this prevalence nearly doubles by ages 55 to 64. Only four typical functional capacities are shown in the chart but the age patterning in prevalence is nearly identical for a wide variety of physical activities that are commonly required for jobs.

We can see from figure 8 that the age pattern for men is quite similar to that for women although the reported prevalence rate at

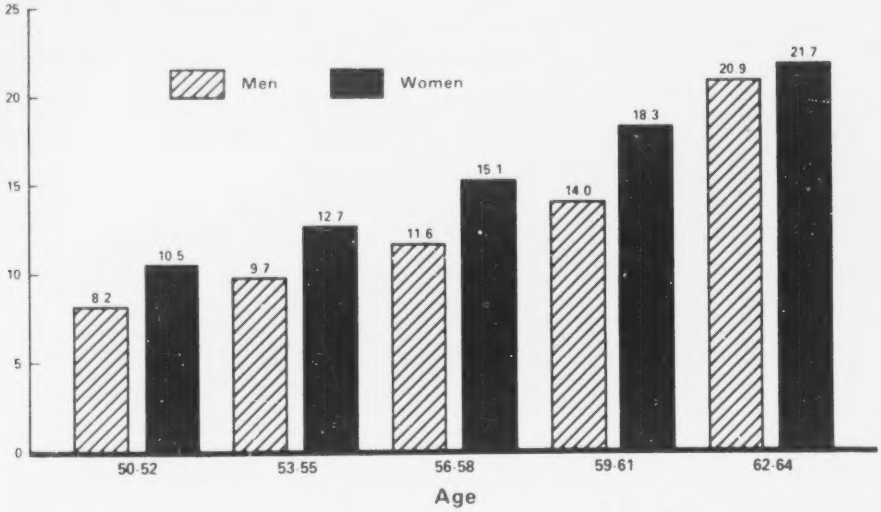

FIG. 6. Work disability rates are higher for women than for men (Percent unable to work: United States, 1976).
Source: Survey of Income and Education, Bureau of the Census.

each age for each particular impairment is generally somewhat lower for men. It should be understood that these physical limitation counts are based on a low threshold of limitation. We note, for instance, that 28 percent of men aged 55 to 64 report themselves as having some trouble lifting or carrying 25 pounds. Only a small minority of the men with the limitation are completely unable ever to lift or carry that much weight. Most of these men can handle 25 pounds during certain periods of time, for instance, while their bursitis or back conditions are in remission. There are other periods, however, when these same men find it quite painful or difficult to lift or carry 25 pounds. Some of the men can perform such a task occasionally with practically no difficulty, but would have trouble doing it repeatedly and frequently. For some individuals, the pain and discomfort of such exertion is noticeable but relatively mild; for others, it may be more severe but still bearable. Although the limitation categories presented here are extremely heterogeneous with regard to severity, we do need to recognize how rapidly the prevalence of functional limitations increases with age.

It is clear that some individuals could continue working despite a physical limitation if they could find a job that would permit them

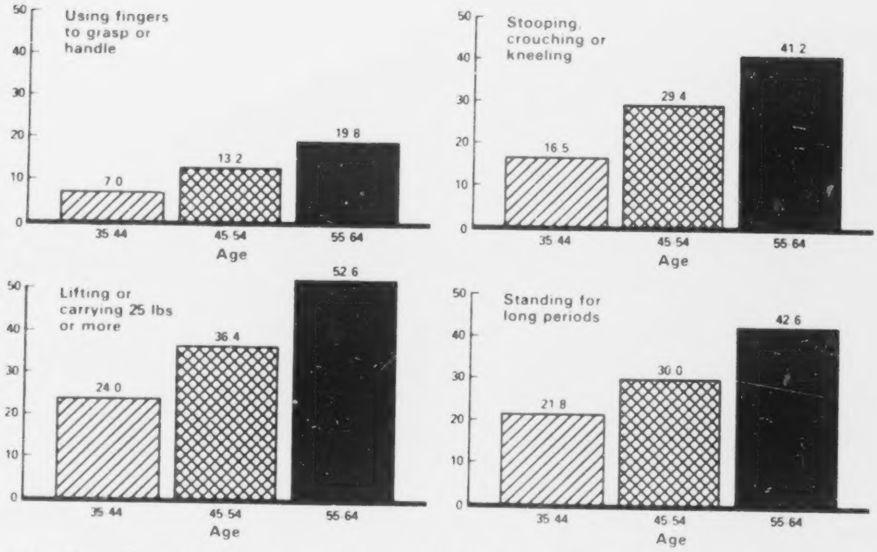

FIG. 7. Routine acts may become difficult as one grows older (Percent of women having trouble when performing specified activities: United States, 1978).

Source: 1978 Survey of Disability and Work, Social Security Administration.

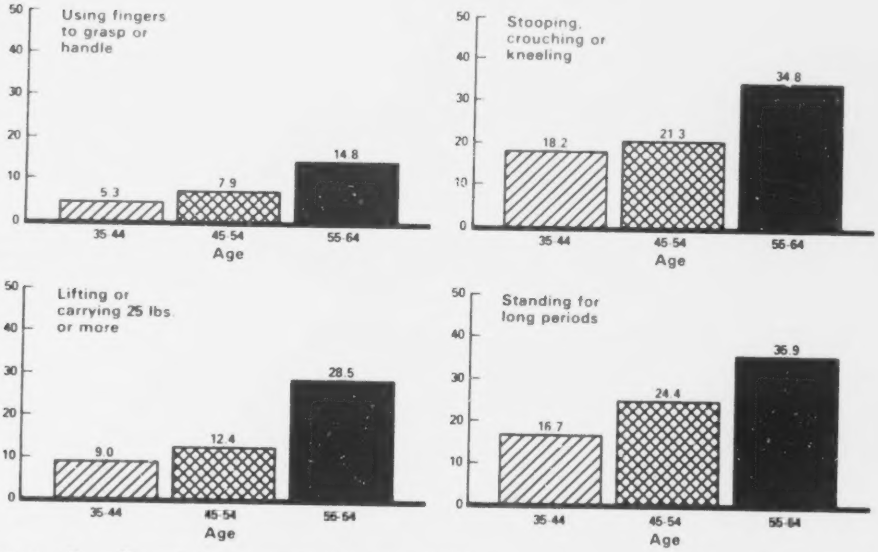

FIG. 8. Routine acts may become difficult as one grows older (Percent of men having trouble when performing specified activities: United States, 1978).

Source: 1978 Survey of Disability and Work, Social Security Administration.

to work intermittently, i.e., during periods of remission of their symptoms. Others could work part-time but not full-time. Still others could work at a physically less demanding job but not at their regular jobs. Such employment changes would, of course, generally result in an appreciable diminution of earnings. Before the advent of current social insurance and income maintenance programs, such employment shifts occurred with some frequency. Older workers left more physically demanding occupations and became night watchmen, guards, doormen, elevator operators, bootblacks, gardeners in private households, and real estate agents (Bogue 1959). In addition, the substantial proportion of older workers who were self-employed as farmers, shopkeepers, and craftsmen were able to adapt to their physical limitations by working intermittently or part-time or by selectively performing those of their former array of tasks that their impaired health permitted. Because of such changes in work activity, earnings declined appreciably for a segment of the aging population as they passed through what is now viewed as the retirement period. Present-day workers suffering physical impairments might not be as successful in obtaining suitable alternative employment as were their counterparts a half-century ago. There are probably fewer "old folks" jobs in the economy now and there may be greater institutional barriers to sporadic, occasional, or part-time employment (Durand 1948). [In a section of his monograph entitled "Contracting Field for Employment of Older Workers," Durand indicates that the institutional barriers to employment were already a serious problem in the immediate post-World War II era.] The state of health and the requirements of the job for a majority of workers reaching their mid-sixties would permit them to continue in their regular line of work with only minimal, if any, job redesign. It is the sizable minority with a rather wide discrepancy between the demands of their regular jobs and their remaining functional capacity for whom there is a problem.

The concern of this commission is with future trends in work disability, a question I have addressed only tangentially. The problem is illustrated by the discussion in a recent Social Security Administration Actuarial Note (Bayo and Faber 1981) that projects equivalent retirement ages to the year 2050. Permit me to quote briefly from the note:

> The measures of equivalence considered in this note take into account mortality, but do not take into account morbidity. That

> is, they adjust for the expected length of life spent in retirement, but they ignore the question of whether that life is spent in a more or less healthy condition. One reason for ignoring that question in this note is that morbidity is much more difficult to quantify than is mortality. . . . Another reason for ignoring morbidity is that we believe that mortality and morbidity are correlated. That is, when mortality improves, morbidity also tends to improve.

I suggested earlier that a decline in mortality rates can be connected with an increase in morbidity rates. As can be seen in the top panel of figure 9, the prevalence rate of disabling heart disease has been increasing throughout the recent period of rapidly declining heart disease mortality rates. People with disabling heart disease may be surviving longer (Elveback, Connolly, and Kurland 1981). [The observed improvement in long-term survival for patients with angina pectoris is suggestive.] This could result in an increase in the size of the disabled population.

A second point of confusion involves the equating of life-threatening conditions with disabling conditions. While there is obviously some overlap between the two sets of conditions, a great deal of disability

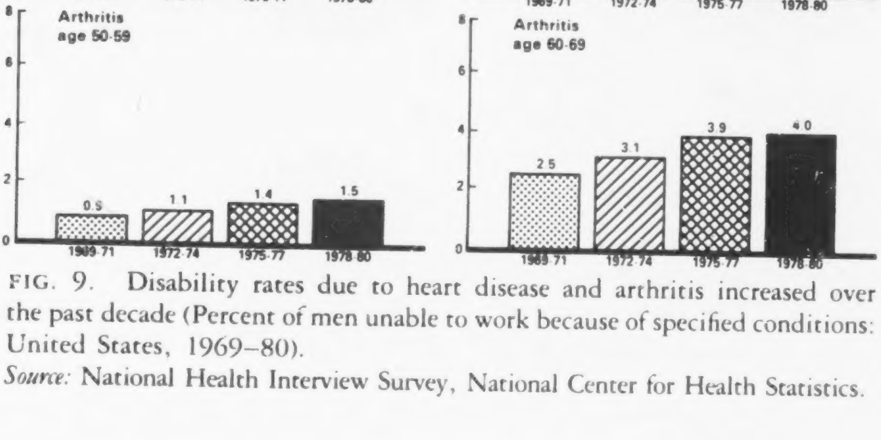

FIG. 9. Disability rates due to heart disease and arthritis increased over the past decade (Percent of men unable to work because of specified conditions: United States, 1969–80).

Source: National Health Interview Survey, National Center for Health Statistics.

is caused by conditions that are not lethal. Musculoskeletal conditions are the cause of a large proportion of work disability. Arthritis, for instance, does not appear to shorten one's life to any great extent. Figure 9 shows the upward trend in the prevalence of disabling arthritis during the past decade or so. While it is not clear why this prevalence has been increasing, there is no particular reason why reductions in mortality rates should result in a reduction in the prevalence of arthritis or of any of a number of other disabling conditions that are generally not lethal.

It has been suggested that the future trend will be markedly different from that depicted here. The concept of the "compression of infirmity" has been receiving wide currency (Fries 1980; Fries and Crapo 1981, 85–93). It is held by some that the age at which chronic diseases manifest themselves is largely under our control as individuals and as a society. The age of onset of disability could be delayed by attention to such personal health habits as exercise, cigarette smoking, alcohol abuse, obesity, and dietary intake as well as the management of high blood pressure and control over environmental pollution. Under this scenario, a widespread reform in personal health habits is taking place and will eventually result in the postponement of the age of onset of disability. The prevalence of work disability would certainly then be lowered in the age span of concern to us here. In terms of figure 4, the stock of disabled at age 55 would be much smaller and the flow of stream 2 would be much slower, thereby reducing the proportion of disabled at age 65 and, of course, at all intervening ages.

What the future holds in this regard is very much a matter of conjecture. The long-term impact of further mortality reductions on the health of the surviving population is difficult to gauge. What has been happening with regard to diabetes is instructive. Diabetes is a condition of which we do not as yet know how to retard the onset but for which the duration of survival subsequent to onset has improved tremendously. Before the use of insulin in the management of diabetes, very few patients lived more than 3 or 4 years after diagnosis. Diabetic comas caused very early deaths. Subsequent to the use of insulin and other advances in the management of diabetes, patients began to survive for far longer periods of time. Medicine became aware of a wide variety of late complications of the disease that arise only after an individual has lived with the disease for many years. When almost all patients died soon after onset, there was no way of knowing what the late complications would be. The greatly improved survival of diabetic patients has resulted in an extremely large increase in the prevalence of the condition and such disabling complications as vision loss and cardiovascular problems (Marble 1976). The lesson to be learned from this is that we forecast the future course of disability prevalence at our own peril (Dubos 1959).

The "compression of infirmity" is based on the anticipation of an imminent widespread reform of personal health habits. Certainly a lower proportion of the population smokes cigarettes now than was the case a decade or two ago. Some other health practices have also shown improvement, but there is no assurance that these trends will continue. Furthermore, it is not clear that the recent trends for alcohol and drug abuse have been particularly favorable. It is difficult to place a great deal of confidence in a forecast of future disability rates that is contingent on a widespread and permanent change in behavior.

I have attempted in these remarks to inject a note of caution regarding the forecasts of a rapid decline, perhaps by the turn of the century, in the prevalence of work disability. On the other hand, we cannot extrapolate the recent increases in work-disability prevalence very far into the future; advances in the prevention, treatment, or rehabilitation of musculoskeletal conditions could be countervailing factors. In addition, jobs could be redesigned to accommodate the handicapped. Given the many intangibles, the commission's recommendations concerning the retirement age will undoubtedly have to be formulated in the face of considerable uncertainty regarding the future course of disability prevalence rates. "Increases in longevity in the past have generally been somewhat larger than the best-informed estimators had predicted" (Myers 1982). Disability prevalence may well be more difficult to predict than is longevity. Our relatively poor record in predicting the future course of mortality rates does not bode well for our prediction of disability prevalence trends.

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Acknowledgments: The views presented in this statement are those of the author and do not necessarily reflect the position of the Department of Health and Human Services. I should like to thank my colleague Thomas F. Drury for his manifold contributions to this analysis.

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Living Longer in the United States: Demographic Changes and Health Needs of the Elderly

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THE CHANGING AGE STRUCTURE OF THE AMERICAN population, with its growing number of elderly, has profound consequences for the nation's economic, social, and health institutions and services. Current discussions of the financing of Social Security and Medicare benefits for retired workers have highlighted the impact of the projected growth of the aged population. Statisticians, demographers, actuaries, epidemiologists, economists, physicians, biomedical researchers, geriatricians, policy makers, and others are heatedly debating the assumptions and concepts of morbidity and mortality, and various population projections are now available. We step into the arena with some trepidation, knowing full well that forecasting is open to immediate challenge, question, skepticism, and argument.

In this paper, we shall focus on the demographic consequences of assumptions of declining mortality and slightly increasing fertility over the next 60 years and what these demographic changes may mean for the nation in terms of the health status, use of health services, and expenditures for health care. Although assumptions and projections may be questioned, the past trends are irrefutable. To grasp where we are heading, we must understand the historical trends in morbidity,

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Milbank Memorial Fund Quarterly/*Health and Society*, Vol. 61, No. 3, 1983
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0160/1997/83/6103/0362-35 $01.00/0

health status, and mortality, for it is the momentum of the recent past that will sweep us into the future.

Let us summarize the trends briefly:

- Since 1960 the population aged 65 and over has grown more than twice as fast as the younger population. The elderly increased from 16.7 million in 1960 to 25.9 million in 1980—a 55 percent increase; for the population under age 65, the increase was only 24 percent. The elderly have also increased as a proportion of the population, from 9.1 percent in 1960 to 11.1 percent twenty years later. The number of the very elderly is growing even more rapidly. In the same time span, those aged 75 to 84 rose 65 percent while the 85 years and over group rose 174 percent.* Declining death rates from heart disease, cerebrovascular disease, influenza, and other causes of death contributed to the growth in the elderly population (National Center for Health Statistics 1982a).
- As more people live longer, chronic diseases, most commonly conditions of middle and old age, have emerged as major causes of death and disability. There are now many more persons suffering from conditions that are managed or controlled rather than cured. These conditions cause afflictions for decades, impairing ability to function and requiring much medical care. Because these conditions are often of long duration, they create burdens for the individual and for society. Approximately 32 million persons, 15 percent of the noninstitutionalized population, report limitations of activity due to chronic diseases in 1979 (National Center for Health Statistics 1981a). The number suffering limitation of

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*The 1980 population estimates used in this paper were prepared by the Social Security Administration (SSA) prior to the availability of the Bureau of the Census official 1980 counts. The SSA estimates are employed throughout this paper because they are the basis for the projections for the subsequent 60-year period. The official April 1, 1980, census count for the population aged 85 and over was 2,240,067. The July 1, 1980, census projection was approximately 2,265,000 or 12 percent lower than the SSA estimate. The increase in the population aged 85 and over between 1960 and 1980 according to the census estimate was about 140 percent. Because of differences in coverage, the official 1980 census percent of the population aged 65 and over was 11.3 rather than the 11.1 presented here.

activity increases with age, rising from 7.3 percent of the total under 45 years to 24.1 percent at ages 45 to 64 years, and 46 percent at age 65 and over.

- Only a small proportion—5 percent—of the elderly are in nursing homes, but 22 percent of the very old (85 years and over) are in nursing homes (National Center for Health Statistics 1981b). As expected, nursing home residents are older and more dependent than the noninstitutional elderly. Nursing home residents' median age, in 1977, was 81 years, and 35 percent were 85 years and older. In general, these elderly residents of nursing homes suffer from multiple chronic conditions and functional impairments. Almost one-third (32 percent) are senile, 35 percent have heart trouble, and 15 percent have diabetes. Orthopedic problems due to a variety of disease conditions are common; 37 percent are bedfast or chairfast and 26 percent are incontinent.
- Medical care utilization patterns among the elderly reflect their poorer health status. They visit physicians, and use hospital and nursing homes considerably more frequently than the younger population, and the use rates rise significantly for the very old (Kovar 1977). In 1981 the elderly comprised 11 percent of the noninstitutionalized population and consumed 29.8 percent of the hospital short-stay days of care (National Center for Health Statistics 1982b).
- Although the elderly comprised 10.9 percent of the population in 1978, 29.4 percent of the health care dollar is spent for their care. Persons aged 65 and over spent $2,026 per capita for health care—7 times the $286 per capita spending for persons under age 19, and 2 1/2 times the $764 per capita expenditure for persons aged 19 to 64 (Fisher 1980).
- The aging of the population is a worldwide phenomenon among industrialized nations and the age structure of the population is a consequence of the demographic history of the country. In 1980, for example, 6.4 percent of East Germany's population was aged 75 and over due to its wartime losses, postwar population shifts, and low birthrates in subsequent years; the proportion is estimated to decline to 5.8 by the year 2000 (table 1). By comparison, 4.4 percent of the United States population was in this older age group in 1980 and the United Nations estimates an increase to 5.5 percent in 2000, a significantly lower proportion

TABLE 1
Percentage of Population Age 75 and Over, Selected Countries, 1980 and 2000

Country	1980	2000
Israel	2.5	3.1
Yugoslavia	3.0	4.1
Japan	3.0	5.0
Canada	3.1	4.0
Australia	3.2	4.3
Poland	3.3	4.2
Spain	3.9	5.5
Netherlands	4.4	5.7
United States	4.4*	5.5*
Italy	4.8	6.8
Switzerland	5.2	6.6
Federal Republic of Germany	5.5	6.0
United Kingdom	5.5	6.7
France	5.6	5.9
Sweden	6.2	8.0
German Democratic Republic	6.4	5.8

* The figures representing the older age groups in the United States in the most recent U.N. projections were in error. The 1980 U.S. Census figure appears in the present table for 1980 and an earlier U.N. projection is given for 2000. The projection for the U.S. appeared in United Nations, *World Population and its Age-Sex Composition by Country, 1950–2000* [U.N. Pub. ESA/P/WP.65] (New York, 1980).

Source: United Nations, *Demographic Indicators of Countries: Estimates and Projections as Assessed in 1980*, U.N. Pub. ST/ESA/SER.A/82. (New York, 1982).

than projected in this paper. The United Nations projection assumes that mortality rates in the older age groups will decline extremely slowly during the next two decades.

Projections Assumptions

Many other facts and figures could be presented that depict details relating to past trends of an aging population. How realistic is it to make projections based on past trends? One cannot be certain whether the momentum of the past will continue. Will death rates from diseases of the heart continue to decline? Will those for malignant neoplasms continue to increase for the next two decades? Will the onset of chronic illness be delayed as a result of changes in lifestyle, as has been suggested by Fries (1980)? Will new technologies and therapies reduce or increase medical care utilization by the aged? There is currently widespread disagreement regarding these issues among our foremost authorities.

We shall here lay out a future course of events derived from what we consider to be a heuristically useful set of assumptions. We are presenting projections, not forecasts, that will reveal the implications for the health care system of the continuation of recent trends in fertility, mortality, and morbidity.

By 1978 the accelerated downturn in the previous decade in the death rates from cardiovascular diseases were impressive and we made population projections based on the assumption that the rapid reductions in mortality from 1968 to 1978 across the age range would continue for 25 more years (Rice 1978, 1979). More recently, the Social Security Administration (SSA) recognized the downturn by building into their population projections the assumption that mortality among the elderly would continue for the immediate future to decline at a relatively rapid rate. The SSA actuaries covered a range of alternative assumptions regarding the future course of fertility, mortality, and net immigration rates by publishing three sets of projections to the year 2080 (Faber and Wilkin 1981). For our projections of health status, utilization, and expenditures, we are employing the intermediate set of projections which were based on the following assumptions:

Fertility Rates (Births per woman): The 1980 rate of 1.845 would rise to 2.100 by 2005, remaining at that rate annually thereafter.

Mortality Rates: Between 1980 and 2005 for each cause of death group, the rates of decline that characterized the 1968 to 1978 period would gradually be transformed into ultimate conservative annual rates of decline during the period 2005 to 2080.

Net Immigration (Excess of immigration over emigration): A constant annual rate of 400,000 persons would occur.

The Bureau of the Census also published three sets of projections to the year 2050 (Bureau of the Census 1982) that are consistent with those prepared earlier by the SSA, except that the latter projections include certain small population groups not covered by the Bureau of the Census, including residents of Puerto Rico, The Virgin Islands, Guam, American Samoa, and federal civilian employees and their dependents overseas.

The accuracy of population projections, regardless of their source, may be questioned. In part, they reflect different beliefs about the future course of mortality, fertility, and net immigration. Stoto (1983) recently evaluated past population projections of the Bureau of the Census and the United Nations by taking into account the length of the projection period and the size of the projected population. He concluded that there is a very large confidence interval associated with the projections made in the past by the Bureau of the Census. In spite of these inherent inaccuracies of population projections, they are key elements in planning and policy studies. The SSA projections are used in this paper to highlight the future impact of the aging of the population on health status, utilization, and expenditures. The precise numbers are less important than the need to recognize the problems facing the nation resulting from the aging population in the future.

Mortality Projections

The improvements in mortality by cause of death postulated for the 2005 to 2080 period by the SSA actuaries were established by considering a variety of factors including:

- Advances in research and the knowledge base regarding disease etiology;
- the development and application of new diagnostic and surgical techniques;
- the presence of environmental pollutants;
- the incidence of violence; and
- continued improvements in lifestyle such as exercise, improved nutrition, cessation of cigarette smoking, reduction of drug and alcohol abuse, as people assume increased responsibility for their own health.

Employing the above assumptions and methods, the death rates projected by the SSA for the elderly populations in 5-year age groups to the year 2040 are shown in table 2. The trend is downward for both men and women in these age groups. However, the rates for

TABLE 2

Number of Deaths per 100,000 Population by Five-Year Age Group for Selected Causes by Sex: United States, 1968–2040

Cause of Death and Age*	Males 1968	Males 2000	Males 2040	Females 1968	Females 2000	Females 2040
All Causes						
65–69 years of age	4,224.8	2,706.1	2,368.0	2,145.5	1,367.6	1,184.3
70–74 years of age	6,128.2	4,202.4	3,664.8	3,327.3	2,115.8	1,810.1
75–79 years of age	8,836.2	6,738.2	5,856.2	5,610.8	3,571.0	3,013.5
80–84 years of age	12,755.8	9,465.0	8,209.1	9,278.7	5,388.3	4,483.8
85 years and over	21,732.0	12,997.3	11,190.0	18,425.0	8,691.9	7,142.4
Diseases of the Heart						
65–69 years of age	1,883.0	941.5	738.0	870.6	369.5	289.6
70–74 years of age	2,747.8	1,488.7	1,166.9	1,467.5	679.2	532.3
75–79 years of age	4,000.1	2,443.9	1,915.9	2,583.4	1,333.5	1,045.0
80–84 years of age	5,854.8	3,542.8	2,777.3	4,396.1	2,255.3	1,767.5
85 years and over	10,078.0	5,256.6	4,120.5	8,850.1	4,105.7	3,217.6
Malignant Neoplasms						
65–69 years of age	875.7	1,042.8	965.1	495.0	596.6	530.4
70–74 years of age	1,158.5	1,518.3	1,405.4	623.3	763.5	678.9
75–79 years of age	1,436.1	2,132.3	1,973.8	813.4	996.0	885.5
80–84 years of age	1,674.9	2,557.0	2,367.0	963.6	1,119.1	994.7
85 years and over	1,936.1	2,557.2	2,367.3	1,223.6	1,049.7	931.6

Vascular Diseases						
65–69 years of age	533.7	180.4	130.4	341.9	103.8	75.1
70–74 years of age	948.8	348.1	251.6	630.1	208.2	150.5
75–79 years of age	1,622.7	692.3	500.5	1,250.2	444.0	320.9
80–84 years of age	2,752.5	1,095.3	791.9	2,388.1	849.1	613.7
85 years and over	5,443.9	1,770.3	1,279.8	5,261.5	1,649.4	1,192.2
Accidents, Suicides, and Homicides						
65–69 years of age	163.1	74.6	74.3	63.0	28.7	29.8
70–74 years of age	186.1	90.1	89.8	80.3	34.5	35.7
75–79 years of age	248.9	131.0	130.6	134.1	49.8	51.7
80–84 years of age	352.7	172.2	171.6	228.1	70.1	73.7
85 years and over	599.8	250.1	249.3	513.1	106.0	110.0
Respiratory Diseases						
65–69 years of age	319.2	202.1	218.2	89.7	86.5	93.5
70–74 years of age	495.7	384.9	415.9	135.6	141.7	153.2
75–79 years of age	716.4	750.3	811.4	250.7	236.0	255.1
80–84 years of age	993.1	1,236.1	1,341.6	478.5	345.9	373.7
85 years and over	1,823.2	1,903.2	2,066.4	1,210.6	629.6	679.9

• The cause of death codes based on the International Classification of Diseases, 8th revision, follow
Diseases of the heart (390–398, 402, 404, 410–429)
Malignant neoplasms (140–209)
Vascular diseases (400–401, 403, 430–458, 582–584)
Accidents, suicide, and homicide (E800–E989)
Diseases of the respiratory system (460–519)

Source: Social Security Administration, Office of the Actuary. Unpublished.

all causes are significantly higher for males than females and the downward trend is postulated to be somewhat slower for males. For example, for the 75 to 79 age group, the male death rates in 1968 for all causes was 57 percent higher than those for females. By 2040 death rates for males are projected to decline 34 percent compared with a 46 percent decline for females in this age group. Thus, by 2040 mortality rates for men are almost double those for women.

The greatest reductions from 1968 to 2040 in mortality rates in the age group 75 to 79 are for vascular diseases—69 percent for males and 74 percent for females. Mortality from diseases of the heart and from accidents, suicides, and homicides also is projected to decline significantly, by approximately one-half for men and three-fifths for women from both causes of death. Malignant neoplasm death rates, by contrast, are projected to rise about one-third for men and one-tenth for women in this age group. Smaller increases are projected for mortality from respiratory diseases—13 percent for men and 2 percent for women. Projected mortality rates for the other elderly age groups show similar trends.

Population Projections

What is the effect of declining mortality rates for vascular and heart diseases and accidents on the age structure of the population? The aging of the United States population is illustrated in figure 1 which shows the population pyramids—the distribution of the population by 5-year age groups and by sex—in the 60 years ahead.

In 1980 the population totaled 233 million people—114 million men and 119 million women.* The postwar baby boom of the 1950s creates a bulge at ages 20 to 29, with the lower birthrates of the late 1960s and 1970s reflected in the narrow base. Persons aged 65 and over totaled 25.9 million and comprised 11.1 percent of the population in 1980 (table 3). Forty years earlier, the elderly numbered about 9

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*The official Bureau of the Census figure for April 1, 1980, is 226.5 million people. The SSA figure includes Puerto Rico and the outlying areas, an undercount adjustment, and a number of other adjustments. Throughout this paper, we have presented the SSA estimates rather than the official census counts. This has been done for the sake of consistency with the projection.

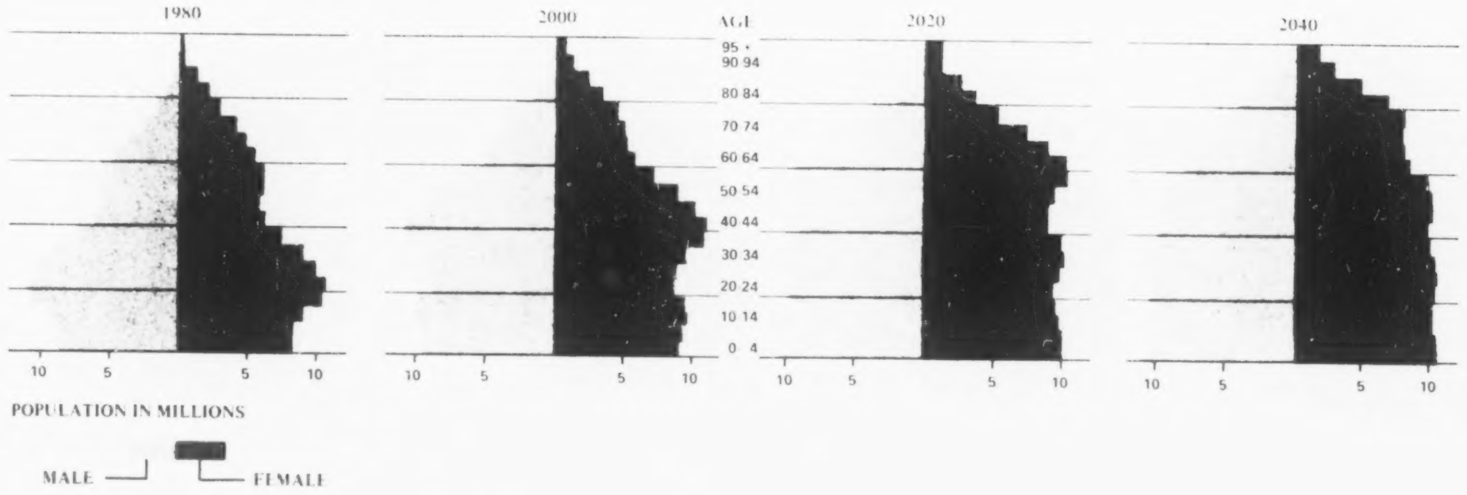


FIG. 1. Age structure of the U.S. population, populations in millions. (Source: Social Security Administration.)

TABLE 3

Projected Number of Persons by Age and Sex: United States, 1960–2040*

Age and Sex	1960	1980	2000	2020	2040
Total					
All ages	183,216	232,669	273,949	306,931	328,503
Under 20 years of age	70,828	74,045	77,001	80,376	84,234
20–44 years of age	59,216	87,145	98,261	97,345	102,160
45–64 years of age	36,466	45,587	62,435	76,557	74,853
65 years and over	16,706	25,892	36,252	52,653	67,256
65–74 years	11,094	15,627	18,334	30,093	29,425
75–84 years	4,671	7,688	12,496	14,909	24,565
85 and over	941	2,577	5,422	7,651	13,266
Male					
All ages	90,513	114,069	133,798	149,538	158,833
Under 20 years of age	35,957	37,807	39,334	41,067	43,045
20–44 years of age	29,126	43,754	49,424	49,063	51,513
45–64 years of age	17,852	22,086	30,592	37,616	36,935
65 years and over	7,578	10,422	14,448	21,792	27,340
65–74 years	5,168	6,819	8,250	13,779	13,559
75–84 years	2,043	2,838	4,741	5,907	9,895
85 and over	367	765	1,457	2,106	3,886
Female					
All ages	92,703	118,600	140,151	157,393	169,670
Under 20 years of age	34,871	36,238	37,667	39,309	41,189
20–44 years of age	30,090	43,391	48,837	48,282	50,647
45–64 years of age	18,614	23,501	31,843	38,941	37,918
65 years and over	9,128	15,470	21,804	30,861	39,916
65–74 years	5,926	8,808	10,084	16,314	15,866
75–84 years	2,628	4,850	7,755	9,002	14,670
85 and over	574	1,812	3,965	5,545	9,380

* Figures denote thousands.

Source: Social Security Administration, Office of the Actuary. *Actuarial Study No.* 85. July 1981.

million, over 6.8 percent of the total population. The aged population grew rapidly because of high birthrates during the early part of the twentieth century in combination with the long-term decline in mortality rates.

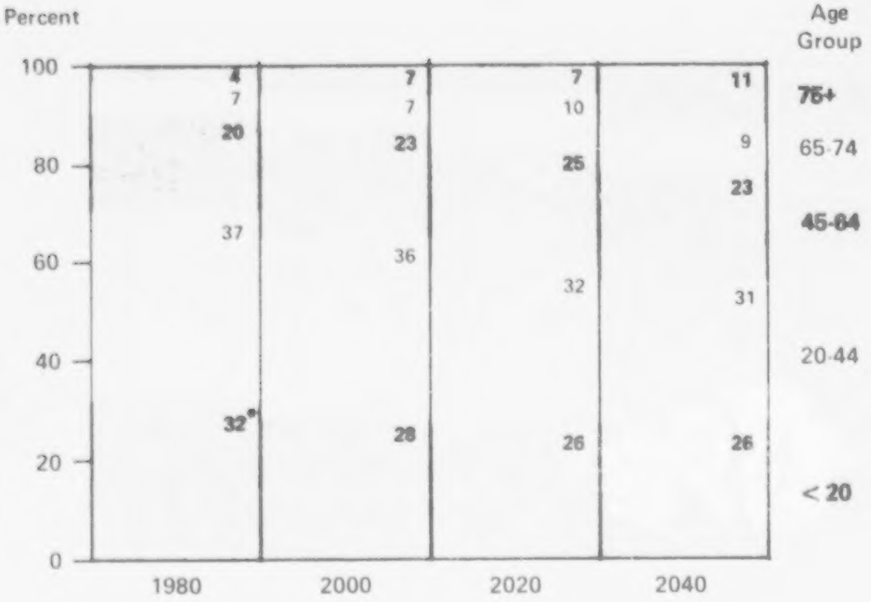
By the year 2000 the pyramid is quite distorted. A total of 274 million persons is projected—134 million men and 140 million women. The aged total 36.3 million and comprise 13.2 percent of the total population and elderly women far outnumber the men—21.8 million women and 14.4 million men. The birth cohort of the 1990s is estimated at the replacement-level fertility rate—2.1 children for each woman.

The pyramid for the year 2020 is almost rectangular through age 69. The children born during the post-World War II era are now aged 60 to 69 and the elderly population constitutes 17.2 percent of the total. The birth cohort of the 1950s is so large that the elderly will increase substantially between 2010 and 2020 regardless of whether fertility remains at its current low levels of 1.8 children per woman or takes an unexpected turn upward.

The pyramid for the year 2040 is almost rectangular rather than pyramidal. A child born in 1975 will be aged 65 in the year 2040. Of the 39 million children born between 1950 and 1960, 15 million are estimated to reach ages 80 to 89 in the year 2040. The aged population is at its peak at 67.3 million persons, or 20.5 percent of the total population. Aged women far outnumber the men—39.9 million women compared with 27.3 million men.

The projected changing age structure of the population is vividly seen in figure 2. Between 1980 and 2040 the population as a whole is projected to increase 41 percent. Of the younger population, those under age 45 will rise only 16 percent and decline in proportion to the total from 69 percent in 1980 to 57 percent in 2040. By contrast, persons aged 75 and over are projected to comprise 11 percent of the total in 2040, up from 4 percent in 1980. During this 60-year period, their numbers will almost quadruple from 3.6 million in 1980 to 13.8 million in 2040. It is important to note that the person reaching age 85 in 2040 was born in 1955 and is 28 years old today. A child born this year—1983—will reach age 65 in the year 2048.

Returning briefly to table 1 showing the proportion aged 75 and over in selected countries in the year 2000, it is noted that the United Nations projection for the United States is appreciably lower than that of the SSA actuaries—5.5 percent compared with 6.5 percent



*Percentages

FIG. 2 Age distribution of U.S. population, selected years. (Source: Social Security Administration.)

respectively. Up to the present, United Nations demographers have not taken into account the speed with which mortality rates have been declining in the United States. While mortality rates among the elderly have also been dropping rapidly in Japan, Australia, and in a few other countries, it is far from a universal phenomenon among all industrialized nations. The UN projections involve only a slow decline in mortality rates at older age intervals, emphasizing how much difference the assumption of a rapid decline makes.

Projections of Health Status, Health Services Utilization, and Expenditures

What will these demographic changes mean for the nation in terms of health status, the use and cost of health care? We have not attempted to anticipate future trends in other factors that influence utilization of health services and expenditures for those services. Changes in levels of morbidity, in therapies and technologies, in the availability and cost of care, in social and economic conditions, will contribute to patterns and levels of utilization of medical care services, as will mortality rates and changes in the age structure of the population. Some of these factors may work to increase utilization while others may decrease it. Whatever else happens, however, the projected changes in the size and age distribution of the population would alone have a significant impact on utilization and, consequently, on expenditures. And since older people tend to have more health problems than younger people, the implications of the aging of the population on the demand for medical care and on public policy are significant.

To make these estimates, we have applied current age-specific rates of activity limitation and utilization patterns to the projected populations in future years as shown in table 4. We realize full well that there is considerable conjecture and controversy regarding future morbidity patterns. Fries holds that the improved changes in lifestyle will result in a reduction in the prevalence of morbidity from chronic diseases and a compression of morbidity at the older ages (Fries 1980; Fries and Crapo 1981). He argues that there are biologic constraints on human mortality. He foresees a continued decline in premature death and the emergence of a pattern of natural death at the end of a natural life span. He states that the "rectangularization of the survival curve may be followed by rectangularization of the morbidity curve and by compression of morbidity."

Ernest Gruenberg (1977) and Morton Kramer (1980), on the other hand, believe that chronic disease prevalence and disability will increase as life expectancy is increased which will lead to a "pandemic" of mental disorders and chronic diseases. Thomas (1977) believes that the major diseases of human beings have become approachable biological puzzles, ultimately solvable. It follows from this that it is now possible to begin thinking about a human society relatively free of disease.

Manton (1982) elucidates the disagreement between the opposing viewpoints and points out that stability of morbidity and health status levels has characterized the aged population during the past decade. He views human aging and mortality as complex phenomena and as dynamic multidimensional processes in which chronic degenerative diseases play an essential role. His concept of "dynamic equilibrium" implies that the severity and rate of progression of chronic disease are directly related to mortality changes so that with mortality reductions

TABLE 4

Age Specific Rates Per 1,000 Population Used for Projections, by Sex

Sex and Age	Percent with Limitations in ADL[a]	Hospital Days of Care[b]	Physician Visits[c]	Nursing Home Residents[d]
Male				
Total	1.3	1,053.4	4,048.0	3.6
Under 20	0.2	357.0	4,224.3	0.9
20–44	0.4	608.4	3,231.0	
45–64	1.9	1,587.9	4,388.0	
65 and over	6.8	4,243.9	5,925.8	30.7
65–74	4.4	3,370.0	5,539.5	12.7
75–84	9.7	5,476.4	6,799.3	47.4
85 and over	21.7	7,674.4	6,362.0	140.0
Female				
Total	1.9	1,355.0	5,413.0	8.4
Under 20	0.2	388.7	4,294.2	1.0
20–44	0.5	1,070.0	5,739.1	
45–64	1.8	1,604.0	5,679.7	
65 and over	10.4	3,999.8	6,763.5	59.7
65–74	5.1	2,977.3	7,018.7	15.9
75–84	15.0	5,009.0	6,524.8	80.6
85 and over	34.6	6,598.9	5,677.8	251.5

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[a] Limitations in one or more activities of daily living (ADL): walking, bathing, using the toilet, dressing, eating, and getting in and out of bed. National Health Interview Survey, 1980 (Home Care Supplement).

[b] National Hospital Discharge Survey, 1980.

[c] National Health Interview Survey, 1980.

[d] National Nursing Home Survey, 1977.

there is a corresponding reduction in the rate of progression of aging of the vital organ systems of the body. He believes that the severity of chronic diseases will be reduced or its rate of progression slowed, resulting in reduced mortality rates and an increase in life expectancy. Other researchers have raised similar challenging and important issues (Siegel 1980; Hayflick 1977; Keyfitz 1978).

An examination of past trends of health status indicators indicates little or no change in recent years. For example, there were 13.8 bed-disability days per person aged 65 and over in 1970 and in 1980 (National Center for Health Statistics 1972, 1982b). Medicare and Medicaid, enacted in 1965, have resulted in varying rates of increases in the use of hospitals and nursing homes. From 1967 to 1979 the number of short-stay hospital discharges per 1,000 persons under age 65 increased 11 percent; for the elderly, it rose 35 percent. During this same period the average length of stay declined throughout the age range so that the number of days of care per 1,000 persons under age 65 declined 6 percent, but increased 2 percent for the elderly (Lubitz and Deacon 1982). Nursing home use rates, however, have increased significantly. In 1969 there were 37.1 residents per 1,000 persons aged 65 and over in nursing homes and personal care homes; by 1977 the rate had risen to 47.9, a 29 percent increase (National Center for Health Statistics 1982c, 108). For our projections of health status and health care utilization, we are applying current, rather than increasing age-specific rates to the SSA population projections, which may well prove to be an underestimate.

An important measure of health status is the ability to perform the activities of daily living (ADL) such as walking, bathing, using the toilet, dressing, eating, and getting in and out of bed as reported in the National Center for Health Statistics' National Health Interview Survey (figure 3 and table 5). In 1980, 3.1 million noninstitutionalized persons were reported needing assistance in one or more of these activities. By 2040 the number is projected to more than double to a total of 7.9 million persons. The population will only increase during that period by two-fifths. The difference between the rates of growth in the population and in the number of persons with limitations in ADL is a reflection of the aging of the population. The impact of the aging of the population is shown clearly in the projected changing distribution by age. In 1980, 36 percent of the noninstitutionalized persons with limitations in ADL were aged 75 and over, by 2040 the proportion rises to 58 percent.

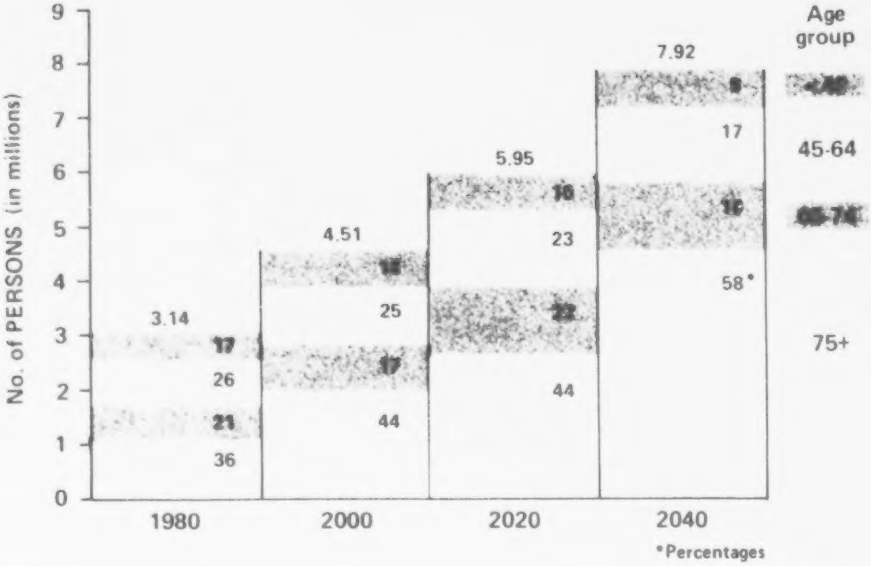

FIG. 3. Number and distribution of persons with limitations in activities of daily living. (Source: National Center for Health Statistics.)

How will the aging of the population affect the use of health services? Projections are presented for physician visits, hospital and nursing home care. The number of physician visits will increase in the future due to the aging of the population, but the increase will be less than for other measures of utilization because age-specific utilization rates do not vary as much for physician visits as, for example, for hospital care. Only 6 percent of the increase in visits from 1.1 billion in 1980 to 1.6 billion in 2040, an increase of 47 percent, results from the aging of the population. The distribution by age, however, will change (figure 4 and table 6). By 2040 persons aged 65 years and over will comprise 27 percent of the total visits compared with 15 percent in 1980.

The aging effect is quite different for hospital and nursing home care. Total short-stay hospital days will double, increasing from 274 million in 1980 to 549 million in 2040, with more than half the increase due to the aging of the population. Forty percent of the days of care in 2040 are projected for those aged 75 and over; in 1980 only 20 percent were in that age group (figure 5 and table 7).

TABLE 5

Projected Number of Persons with Limitations in Activities of Daily Living by Age and Sex: United States, 1980–2040*

Age and Sex	1980	2000	2020	2040
Total				
All ages	3,141.7	4,509.1	5,951.3	7,922.4
Under 45 years of age	545.0	602.1	605.9	635.8
45–64 years of age	817.2	1,131.9	1,391.8	1,366.6
65–74 years of age	647.8	783.7	1,309.0	1,288.1
75 and over	1,131.7	1,991.3	2,644.7	4,631.9
Male				
All ages	1,411.6	1,996.7	2,629.3	3,393.6
Under 45 years of age	250.6	276.4	278.4	292.2
45–64 years of age	419.6	581.2	714.7	701.8
65–74 years of age	300.0	363.0	606.3	596.6
75 and over	441.3	776.1	1,030.0	1,803.1
Female				
All ages	1,730.1	2,512.5	3,322.0	4,528.8
Under 45 years of age	294.4	325.8	327.4	343.7
45–64 years of age	397.5	550.7	677.1	664.8
65–74 years of age	347.8	420.8	702.7	691.5
75 and over	690.4	1,215.3	1,614.8	2,828.9

* Figures denote thousands.
Source: National Center for Health Statistics, Office of Analysis and Epidemiology

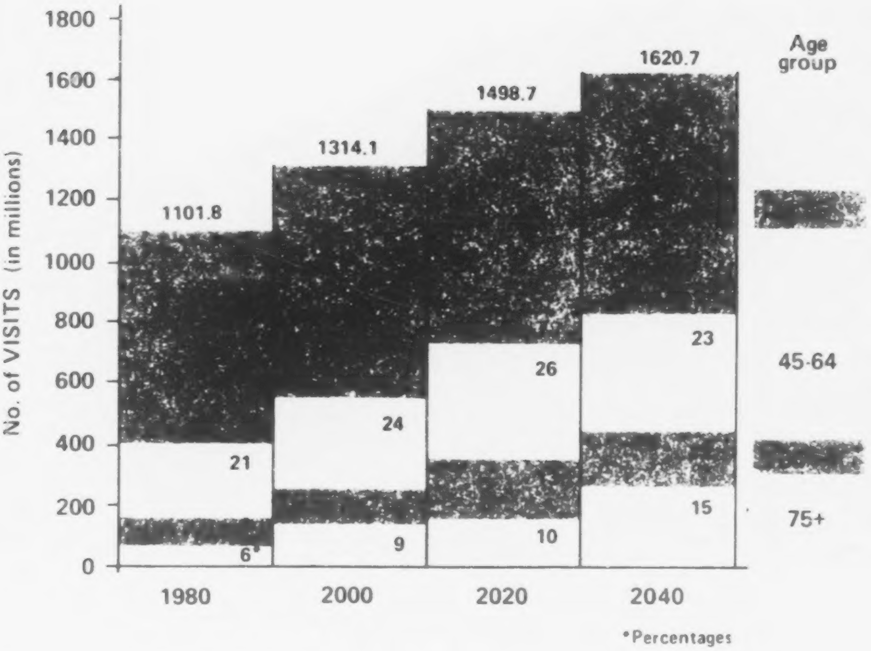

FIG. 4. Number and distribution of physician visits. (Source: National Center for Health Statistics.)

Again, assuming that current patterns of use prevail in the future, there will be very large increases in the number of nursing home residents. From 1.5 million in 1980, the number is projected to 5.2 million residents in 2040—a 3.5-fold increase (figure 6 and table 8). The increases are particularly large among residents 85 years of age and older where a 5-fold increase is projected in the number of residents. In 1980, 37 percent of the residents were aged 85 and over; by 2040 the proportion will be 56 percent. Adding the projected nursing residents aged 75 to 84, about 87 percent of the total residents will be aged 75 and over. It is evident that the aging of the population has a much greater impact on nursing home residents than on days of hospital care or physician visits.

Our final projections are expenditures for medical care. The Health Care Financing Administration annually estimates personal health care expenditures by type of expenditure, source of funds, and by age (Fisher 1980). The latest available expenditure data for three age groups—under 19 years, 19 to 64 years, and 65 years and over—are

TABLE 6

Projected Number of Physician Visits by Age and Sex: United States, 1980–2040*

Age and sex	1980	2000	2020	2040
Total				
All ages	1,101.8	1,314.1	1,498.7	1,620.7
Under 45 years of age	705.7	767.9	777.9	815.8
45–64 years of age	230.4	315.1	386.2	377.4
65–74 years of age	99.6	116.5	190.8	186.5
75 and over	66.1	114.6	143.8	241.0
Male				
All ages	459.9	547.3	627.0	677.5
Under 45 years of age	301.1	325.9	332.0	348.2
45–64 years of age	96.9	134.2	165.1	162.1
65–74 years of age	37.8	45.7	76.3	75.1
75 and over	24.2	41.5	53.6	92.0
Female				
All ages	641.9	766.8	871.8	943.2
Under 45 years of age	404.6	442.0	445.9	467.6
45–64 years of age	133.5	180.9	221.2	215.4
65–74 years of age	61.8	70.8	114.5	111.4
75 and over	41.9	73.1	90.2	149.0

* Figures denote millions.

Source: National Center for Health Statistics, Office of Analysis and Epidemiology.

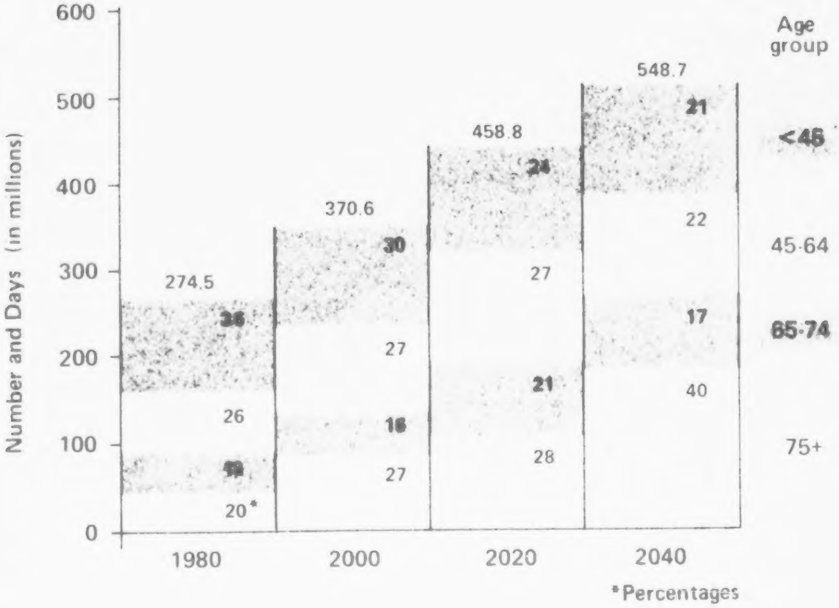

FIG. 5. Number of distribution of short-stay hospital days by age. (Source: National Center for Health Statistics.)

for 1978. We have projected the age breakdown for 1980 and subsequent years by applying the population projections to obtain the impact of the aging of the population (figure 7 and table 9). We also made no attempt to forecast future inflation rates; thus, the expenditures are in constant 1980 dollars.

As with the use of medical care services, the proportional increase in expenditures is projected to rise at a significantly faster rate at the older ages. Of the total $219 billion spent in 1980 for personal health care, $64.5 billion or 29 percent was spent in behalf of the elderly population aged 65 and over. This amount would rise to $167.5 billion in 2040—an increase of 159 percent, due to the aging of the population during that 60-year period. By contrast, for the population under age 65 expenditures are projected to increase 30 percent.

Figure 8 and table 9 enumerate the distribution of personal health care expenditures and population by age for 1980 and 2040. In 1980 11 percent of the population who are aged 65 and over consumed 29 percent of the expenditures; by 2040 the elderly are projected to

TABLE 7
Projected Number of Short-Stay Hospital Days by Age and Sex: United States, 1980–2040*

Age and sex	1980	2000	2020	2040
Total				
All ages	274.5	370.6	458.8	548.7
Under 45 years of age	98.2	111.0	111.4	116.9
45–64 years of age	71.0	99.7	122.2	119.5
65–74 years of age	49.2	57.8	95.0	92.9
75 and over	56.1	102.1	130.2	219.4
Male				
All ages	116.3	157.6	199.1	235.1
Under 45 years of age	38.7	44.1	44.5	46.7
45–64 years of age	33.6	48.6	59.7	58.7
65–74 years of age	22.9	27.8	46.4	45.7
75 and over	21.1	37.1	48.5	84.0
Female				
All ages	158.2	213.0	259.7	313.6
Under 45 years of age	59.5	66.9	66.9	70.2
45–64 years of age	37.4	51.1	62.5	60.8
65–74 years of age	26.3	30.0	48.6	47.2
75 and over	35.0	65.0	81.7	135.4

* Figures denote millions.
Source: National Center for Health Statistics, Office of Analysis and Epidemiology.

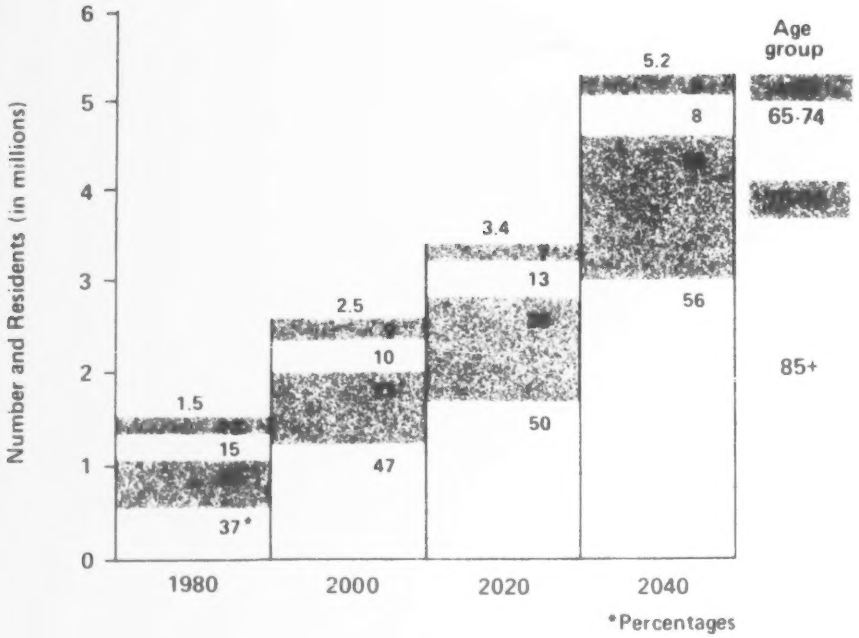

FIG. 6. Number and distribution of nursing home residents. (Source: National Center for Health Statistics, projected from 1977 estimates.)

comprise 21 percent of the population and almost half of the expenditures would be made in their behalf.

The projected growth in spending is greatest for nursing home care. In 1980 about $21 billion was spent for nursing home care, comprising 9.4 percent of total personal health care spending. Assuming constant 1980 dollars, nursing home care spending would more than double by 2040, rising to $48.3 billion and comprising 13 percent of total personal health care expenditures. For the elderly, nursing home expenditures are projected to constitute a quarter of total personal health care expenditures.

Discussion

Underlying our projections are assumptions pertaining to three relatively distinct future trends in: birth and death rates; prevalence of ill-health and functional limitations; and the use of health care services. It is

TABLE 8
Projected Number of Nursing Home Residents by Age and Sex: United States, 1980–2040*

Age and sex	1980	2000	2020	2040
Total				
All ages	1,511.3	2,541.8	3,370.8	5,227.1
Under 65 years of age	196.4	225.8	241.5	248.1
65 years and over	1,314.9	2,316.1	3,129.3	4,979.0
65–74 years of age	226.6	265.1	434.4	424.5
75–84 years of age	525.4	849.8	1,005.6	1,651.4
85 and over	562.8	1,201.2	1,689.4	2,903.1
Male				
All ages	421.5	640.9	864.8	1,303.6
Under 65 years of age	93.3	107.4	115.0	118.3
65 years and over	328.2	533.5	749.8	1,185.3
65–74 years of age	86.6	104.8	175.0	172.2
75–84 years of age	134.5	224.7	280.0	469.0
85 and over	107.1	204.0	294.8	544.0
Female				
All ages	1,089.8	1,900.9	2,506.1	3,923.5
Under 65 years of age	103.1	118.3	126.5	129.8
65 years and over	986.7	1,782.6	2,379.5	3,793.7
65–74 years of age	140.0	160.3	259.4	252.3
75–84 years of age	390.9	625.1	725.6	1,182.4
85 and over	455.7	997.2	1,394.6	2,359.1

* Figures denote thousands.
Source: National Center for Health Statistics, Office of Analysis and Epidemiology.

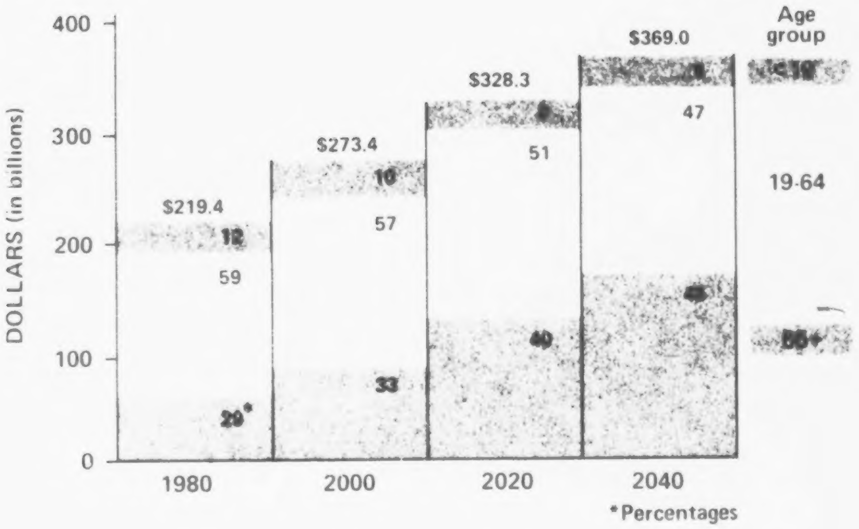

FIG. 7. Personal health care expenditures by age, in constant 1980 dollars. (Source: Projected from Health Care Financing Administration estimates for 1978.)

not until about 2050 that the assumptions regarding future birthrates influence the size of the population aged 65 and older. For 2040 and earlier, the population aged 65 or older has already been born. On the other hand, the projected population pyramids cover the entire age range and are highly sensitive to alternative assumptions regarding the birthrate. As indicated earlier, the projections presented here are based on an assumed upturn in the total fertility rate from the current 1.8 children per woman to 2.1 children per woman by the year 2005. Lower levels of fertility would result in fewer persons in the younger age groups.

The differential growth of the population by age can have important consequences for many of our social institutions, particularly in terms of dependency. Because the most slowly growing age group during the next half century will be those under 20 years, their proportionate share of the total population will diminish measurably.

Recent discussions of the financing of Social Security and Medicare benefits for retired workers and disabled persons have highlighted the long-run impact of the projected future demographic distribution of the population (Ball 1982; Clark, Kreps, and Spengler 1978; Federal

TABLE 9
Projected Personal Health Care and Nursing Home Expenditures by Age: United States, 1980–2040*

Age	1980	2000	2020	2040
Total Expenditures				
All ages	$219.4	$273.4	$328.3	$369.0
Under 19 years of age	25.9	26.9	28.1	29.5
19–64 years of age	129.0	156.2	169.0	172.0
65 years and over	64.5	90.3	131.2	167.5
Nursing Home Expenditures				
All ages	$ 20.6	$ 28.0	$ 38.9	$ 48.3
Under 19 years of age	0.1	0.1	0.1	0.1
19–64 years of age	4.0	4.8	5.2	5.3
65 years and over	16.5	23.1	33.6	42.9

* Figures denote billions, in constant 1980 dollars.
Source: Projected from Health Care Financing Administration estimates for 1978.

Old-Age and Survivors Insurance and Disability Insurance Trust Funds 1982; National Commission on Social Security Reform 1983). Since the future financing of the system depends on the number of retirees in relation to workers, dependency ratios serve as useful indexes of the burden on society of the aging of the population. The "aged dependency ratio" is defined as the population aged 65 and over divided by the population aged 20 to 64. Under the previously stated assumptions regarding fertility and mortality trends, the SSA actuaries estimated this ratio would increase from 195 persons aged 65 or older for every 1,000 persons aged 20 to 64 in 1980 to 380 persons in 2040, almost doubling the aged dependency ratio (table 10).

At the same time, low fertility rates will result in fewer young persons and, thus, in a declining young dependency ratio, defined as the population under age 20 divided by the population aged 20 to 64. This ratio is projected to decrease 15 percent from 558 in 1980 to 476 young persons per 1,000 persons aged 20 to 64 in 2040.

The "total dependency ratio," the sum of the above ratios, is a crude index of the total burden on the working population of its support of both the old and young dependents. Adding the population under age 20 to the aged shows the projected rise of the total dependency ratio from 753 persons dependent on 1,000 persons of working ages in 1980 to 856 in 2040—an increase of 14 percent.

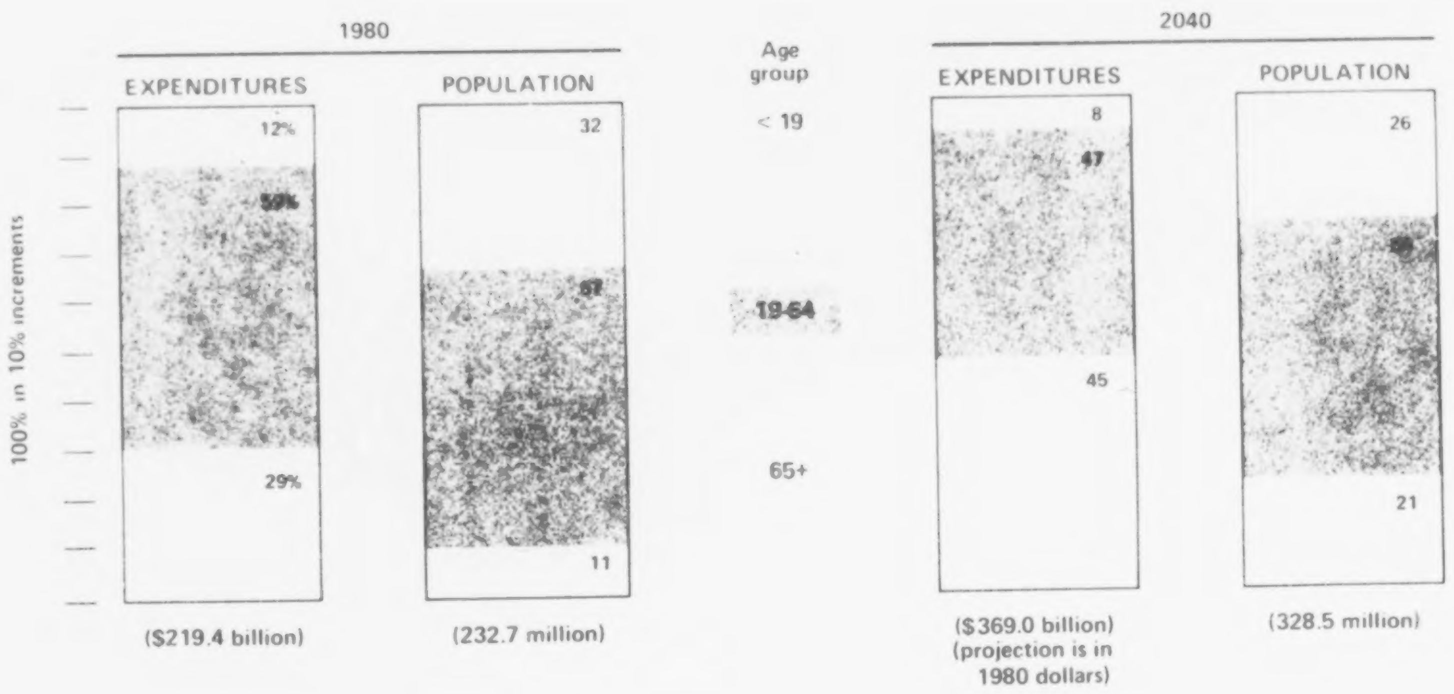

FIG. 8. Percent distribution of personal health care expenditures and population by age group and year. (Source: Projected from Health Care Financing Administration estimates for 1978.)

TABLE 10
Dependency Ratios, by Age, 1960–2040

Year	Young[a]	Aged[b]	Total[c]
1960	.741	.174	.915
1970	.716	.184	.900
1980	.558	.195	.753
1990	.494	.215	.709
2000	.479	.226	.705
2010	.447	.236	.683
2020	.462	.303	.765
2030	.481	.378	.859
2040	.476	.380	.856

[a] Population under age 20 divided by the population aged 20–64.
[b] Population aged 65 and over divided by the population aged 20–64.
[c] Population under age 20 plus the population aged 65 and over divided by the population aged 20–64.
Source: Faber, F. and J.C. Wilkin, *Social Security Area Population Projections, 1981*. Social Security Administration, Actuarial Study No. 85. SSA Pub. No. 11–11532. (Washington, 1981).

However, the relative costs of supporting the aged versus the young is a crucial consideration. One estimate is that "about three times as much public money is spent, on the average, per aged dependent than is spent on a younger one" (Sheppard and Rix 1977). Since the aged will be the most rapidly growing age group and more costly, the burden on the working population to support young and old dependents is a major policy issue for both Social Security and the hospital insurance program under Medicare that are financed by payroll taxes.

How closely the population projections presented here will correspond to actual demographic events depends largely on the relation between actual and projected future mortality and fertility trends. Although the mortality rate projections are by no means simple extrapolations of past trends, the current situation and the experience of the recent past do exert a great deal of influence. The method traditionally used in the United States has been termed "population projection by reference to the informed guesses of experts" (Preston 1974). The short-run portions of the projections are, of course, dampened extrapolations, but the longer run portions reflect expert opinion which is generally molded by the status quo and the events of the recent past. For example, mortality rates from vascular diseases have been declining very rapidly; it is assumed in the present projections that they will continue to decline very rapidly.

Should the mortality projections be treated as forecasts? Past experience suggests that great caution be exercised. After declining relatively steadily for many years, the mortality rates for males 15 to 54 years suddenly leveled off about 1955 and remained more or less level until the late 1960s. This change in trend came as a total surprise; it appeared to observers during the plateau period that earlier projections of male mortality reduction had been overly optimistic (Preston 1974). In the early 1970s an unanticipated decline in mortality rates for older men began; it has made all earlier projections for men appear to be too pessimistic. Mortality trend projections for women have generally been far too pessimistic; for the older age groups, mortality rates are already well below the levels that had been projected for the year 2000. It is impossible to gauge the likelihood of another surprise change in trend starting at some point in time during the next several decades. The SSA projected mortality trends still appear reasonable, but our understanding of the dynamics of mortality rates is, at best, rather poor. Since the causes of major trend reversals of the past, such as the mortality downturns for tuberculosis, stomach cancer, coronary heart disease, and stroke remain unclear, we cannot anticipate with any assurance when the next alteration in course will take place (Stallones 1979).

Similarly, projections of birthrates have corresponded quite well with reality when trends of the past have persisted into the future; changes in trend, however, have produced major discrepancies (Keyfitz 1981; Stoto 1983). Not many fertility projections accommodated the postwar baby boom; not many projections made in the midst of the boom accommodated its relatively abrupt end. Recent and anticipated advances in family planning sophistication suggest a closer correspondence in the future between actual and desired family size. The problem is, however, that we do not know how to foretell the fluctuations in desired family size that are going to be taking place (Lee 1980).

Our crystal ball becomes much cloudier when we begin to project future trends in the prevalence of ill health and infirmity. As indicated earlier, forecasts range from those of Fries, who anticipates a compression of the period of morbidity prior to death, to those of Gruenberg and Kramer, who anticipate an appreciable lengthening of the duration of illness for at least certain segments of the population. It is, of course, quite possible that both phenomena will be taking place simultaneously; there may be an increasing proportion of individuals in quite good health up to the point of death and an increasing proportion with prolonged severe functional limitation, with a decline in the proportion with an only moderate degree of infirmity (Feldman 1982). What effect this would have on the prevalence of morbidity would, of course, depend on the relative magnitudes of the various changes. Unfortunately, our current knowledge of the natural history of most conditions is rather meager and we have little systematic information about terminal illnesses.

Most of the current data derive from cross-sectional observations while longitudinal observations are required for epidemiologic analysis. Although there have been several notable studies that have followed cohorts of older people over considerable periods of time, they have rarely focused on the parameters of morbidity, functional capacity, and mortality required for useful modeling activities. Furthermore, the samples for most of these studies have been too small to delineate the pathways from good health to death, to estimate the frequency with which the different paths are followed, and to estimate the duration of time spent at each stage along the way. Epidemiological techniques need to be applied to the study of the natural history of disease and the process of dying.

Turning finally to assumptions regarding the future use of health services, we plunge even deeper into the great abyss. Two additional demographic considerations are important to consider: 1) the rate of childlessness may well be increasing for cohorts born since the mid-1930s or so. Elderly people without children may require more long-term care services than those with children; and 2) for at least the next few decades, the members of each cohort entering the elderly population will have had, on the average, more years of education than its predecessors. The more highly educated tend to live longer, be in better health, but, relative to their health condition, use more medical care than the less educated.

Of even greater consequence than such demographic factors are, of course, changes in our value structure. Medical advances may enable us to keep highly moribund individuals alive for long periods of time. What will our social norms prescribe that we do with that knowledge? Will the application of heroic measures be indicated under even the most dire of circumstances or will some minimal probability of recovery be required?

Our current public programs have great gaps in the types of services covered. Medicare tends to emphasize care for acute illnesses but does not provide for preventive care, extended nursing home care, or mental health services. Medicaid tends to emphasize nursing home care over in-home services and community alternatives. It is difficult to anticipate how the problems of long-term care will be handled in the future. Will alternative forms of long-term care replace long-term institutionalization for an appreciable proportion of the severely infirm?

We have begun to seek alternative solutions to institutionalization of the elderly and a variety have been developed—foster care homes, congregate housing and retirement communities, home care, personal care, homemaker and chore services, home delivered and congregate meals, and adult day-care centers. The goal with many of these services is to enable the elderly to maintain their independence as long as possible. The development and availability of these services is uneven around the country, and public funds, where available, are inadequate. The issue of coverage of noninstitutional care and social services by public and private health insurance is an important one. Health insurance traditionally has emphasized and paid for hospital care, thereby discouraging the use of alternatives to high costs of hospital care. More attention is being focused on alternative approaches to long-term care in recent years (Institute of Medicine 1977; Estes 1979; Congressional Budget Office 1977; Lee and Estes 1979; Somers 1980).

Given efforts at health promotion and higher educational attainment, it is possible that the elderly of the future may reach old age in better health status than the elderly of the past. The attractive concept set forth by Fries is that people in the future will have a longer disability-free life with a limit on the life span, perhaps reducing the pressure for long-term care services. As indicated earlier, Gruenberg and Kramer, on the other hand, believe that chronic disease prevalence and disability will increase as life expectancy is increased which will lead to a pandemic of mental disorders and chronic diseases. In any event, if these trends in morbidity and mortality argue for a healthy population, they also argue for development of the range of supportive services that the very old need even in the best of health. At the same time, we must realize that the availability of alternative services will not necessarily reduce expenditures for long-term care. "Some have estimated that for every person residing in a nursing home, as many as two or three individuals who live in a community require an equivalent amount of care, which they are currently receiving, if at all, primarily from informal sources" (Health Care Financing Administration 1981). Alternative services may simply fill an, as yet, unmet need.

While it is certainly to be hoped that as time goes on we shall steadily become less dependent on halfway technologies, there may well be a relatively long transition period during which the armamentarium of moderately efficacious but extremely expensive procedures will grow and will be performed with increasing frequency. The assumption underlying our projections that age-specific utilization and expenditure levels will remain constant over time may well turn out to be overly optimistic.

In emphasizing the problematic character of a number of our assumptions, we may have left the impression that the future is totally indeterminate. Actually, the number of elderly will undoubtedly increase rapidly during the next half-century. As a consequence of such factors in our demographic history as past movements in birth and death rates and immigration, it is practically preordained that the number of elderly will grow rapidly. Even if there were not further declines in mortality rates, the number of individuals in the population aged 85 or older would approximately double during the next 25 years while the increase in the number of individuals in the 75 to 84 age bracket would be slightly slower. Younger age groups, however, are likely to be increasing at a far slower rate.

Since even the most optimistic predictions concerning changes in health practices and advances in medicine do not involve an immediate sharp decline in the incidence of illness or marked improvements in recovery rates, it is nearly certain that we shall be facing an increasing demand for medical services for at least the next several decades. Thus, while the projections presented here may possibly exaggerate the magnitude of the future changes, we can be certain that problems resulting from a rapid growth of the elderly population will be with us in the future.

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Acknowledgments: This paper was prepared for presentation at the Institute of Medicine annual meeting on October 20, 1982. The authors are grateful for the statistical analyses performed by Thomas F. Drury and Bruce B. Cohen, Office of Analysis and Epidemiology, National Center for Health Statistics.

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TABLES AND CHAPTS
FOR
LIVING LONGER IN THE UNITED STATES

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and

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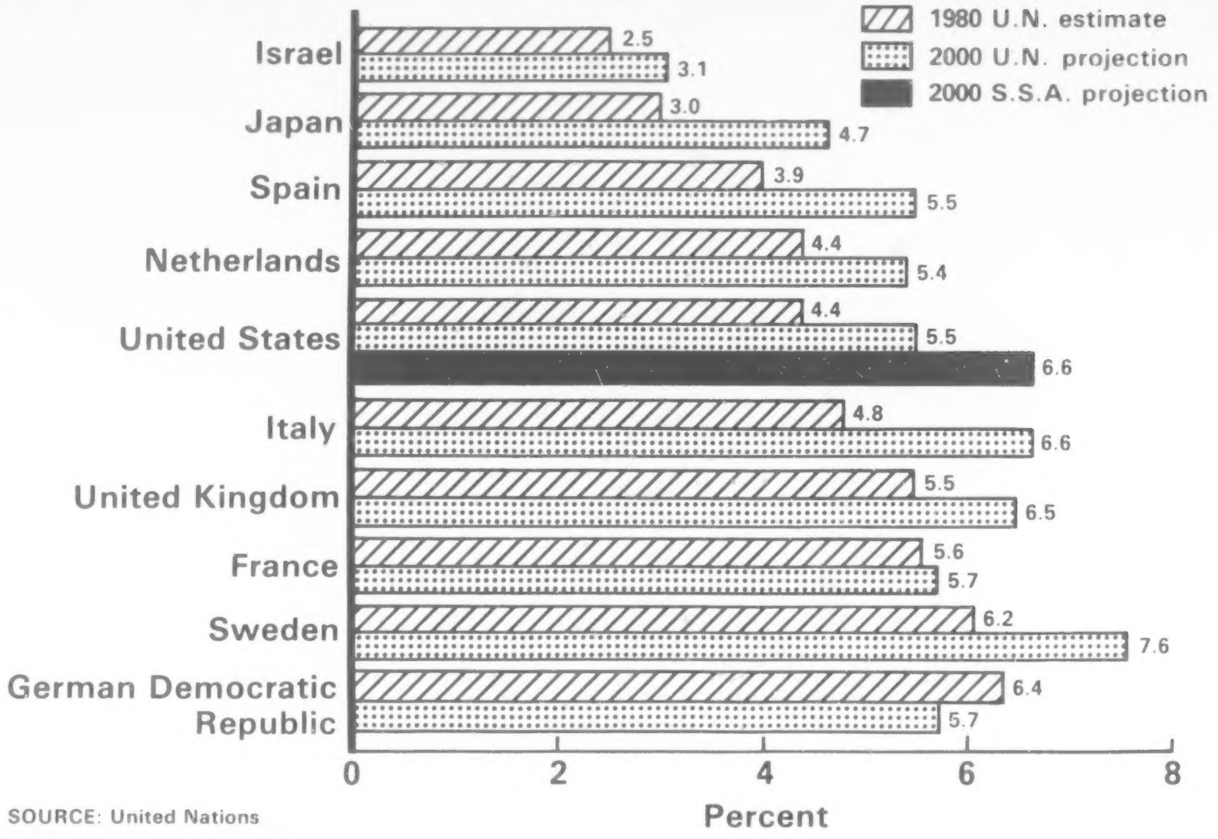
Department of Health and Human Services

American Public Health Association
110th Annual Meeting
Aging and Public Health: International Perspectives

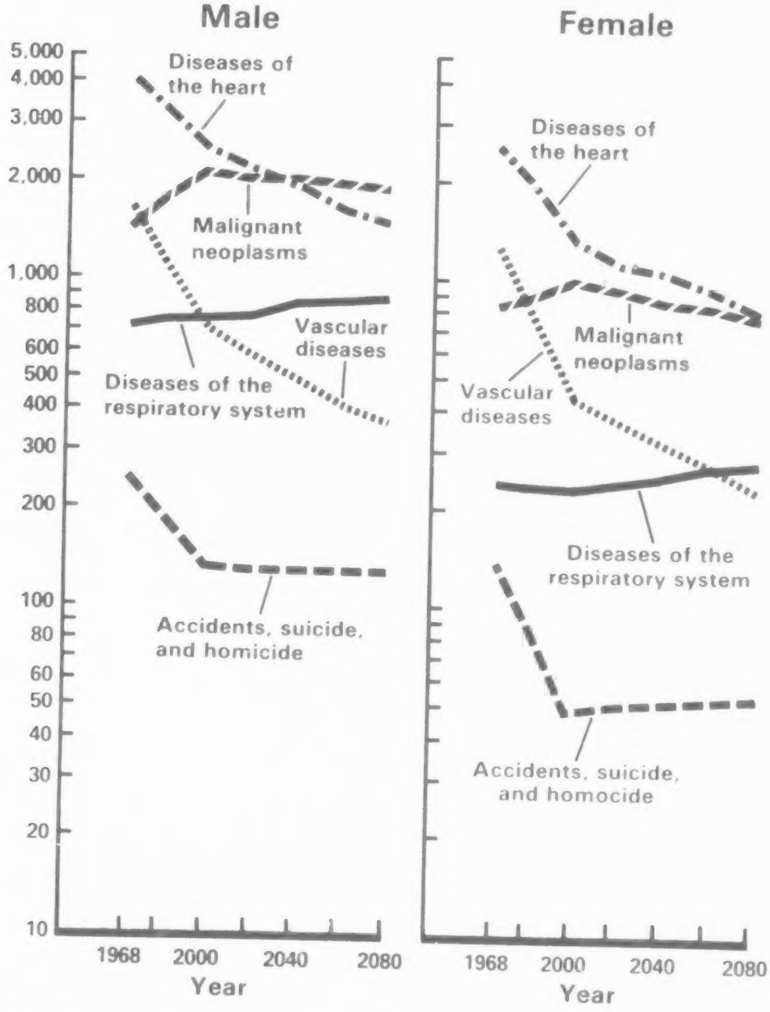
Montreal, Quebec
Canada
November 18, 1982

Percentage of population age 75 and over



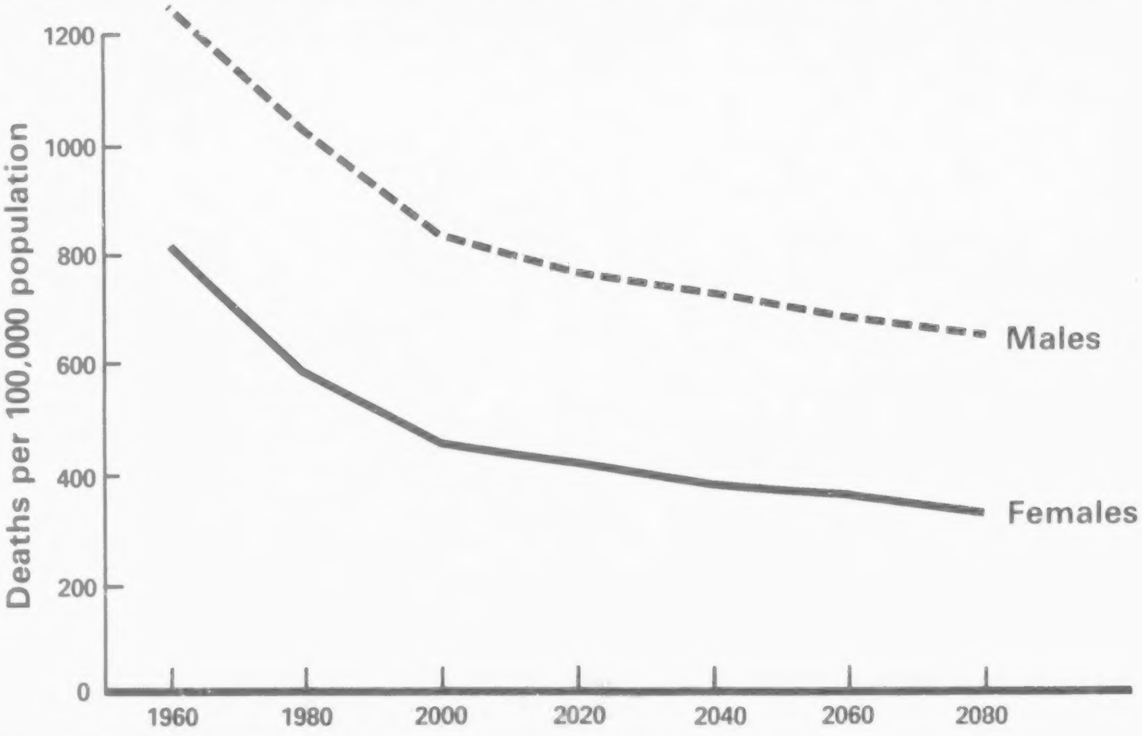
SOURCE: United Nations

Death rates for ages 75-79 years for selected causes: United States (per 100,000 population)



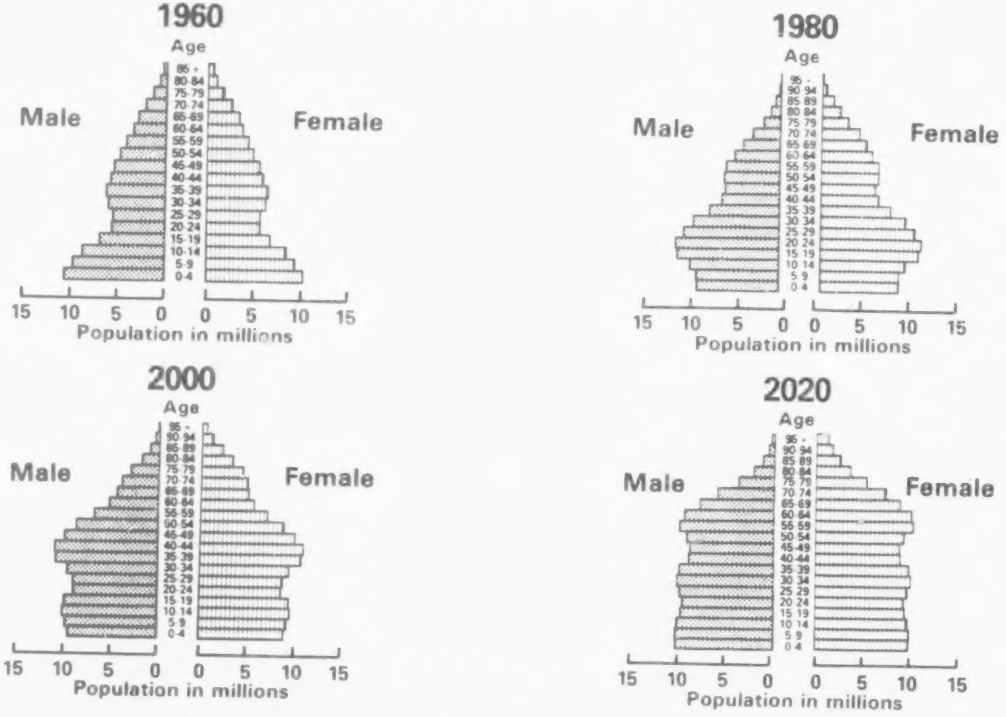
SOURCE: Social Security Administration

Age-adjusted death rates: United States, 1960-2080



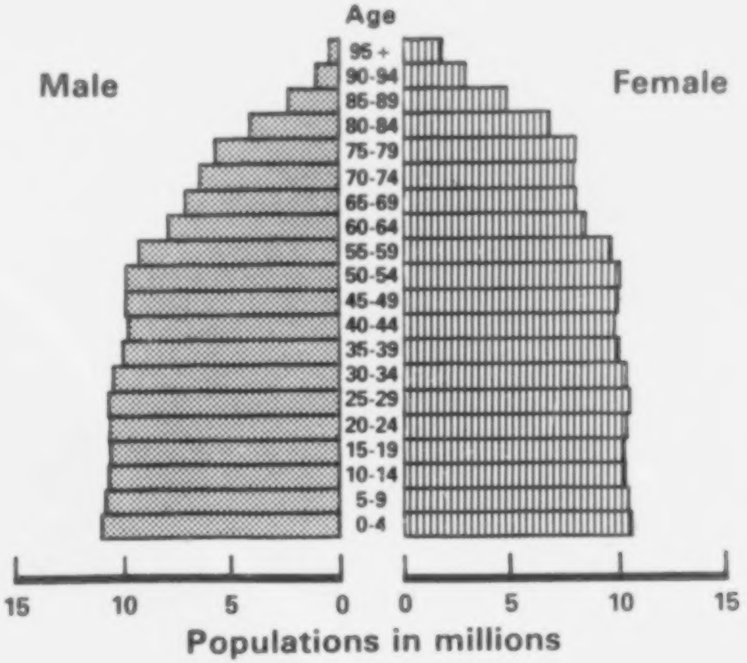
SOURCE: Social Security Administration

Age structure of the U.S. population

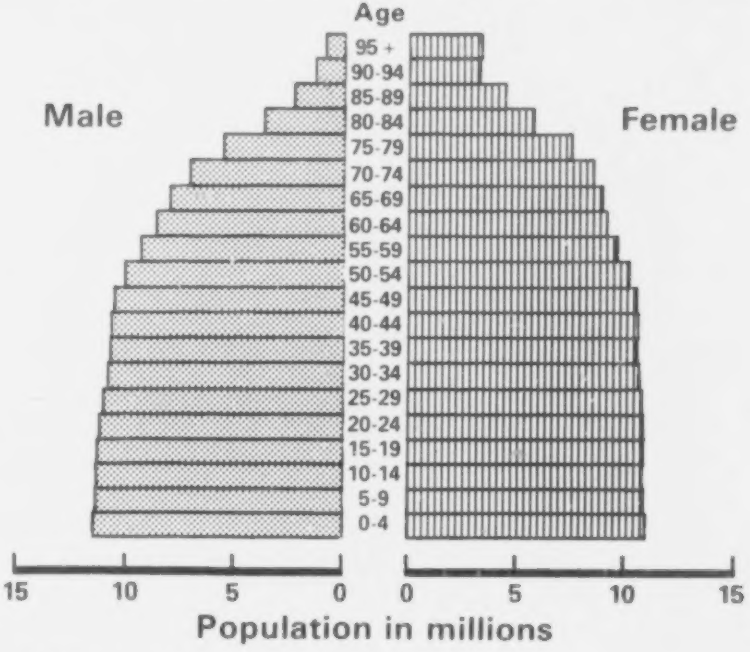


SOURCE: Social Security Administration

Estimated age structure of the U.S. population, 2040



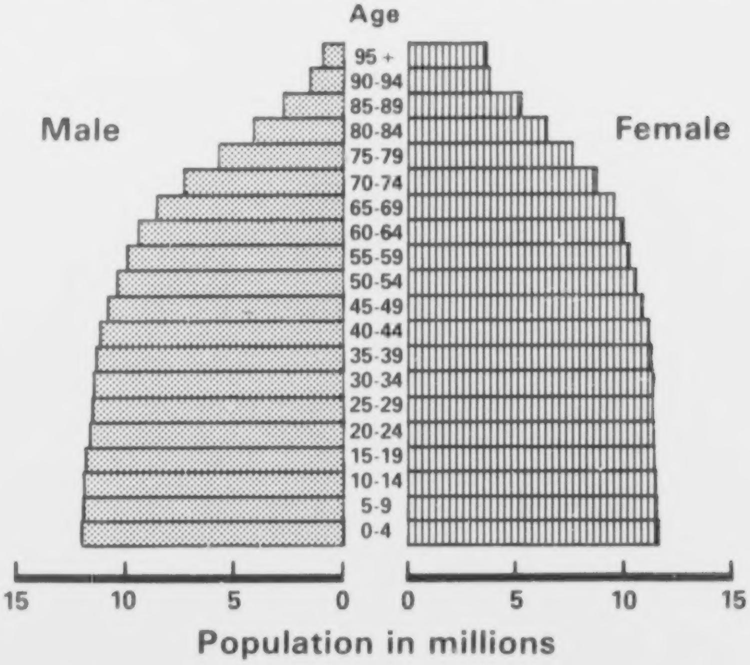
SOURCE: Social Security Administration



Estimated age structure of the U.S. population, 2060

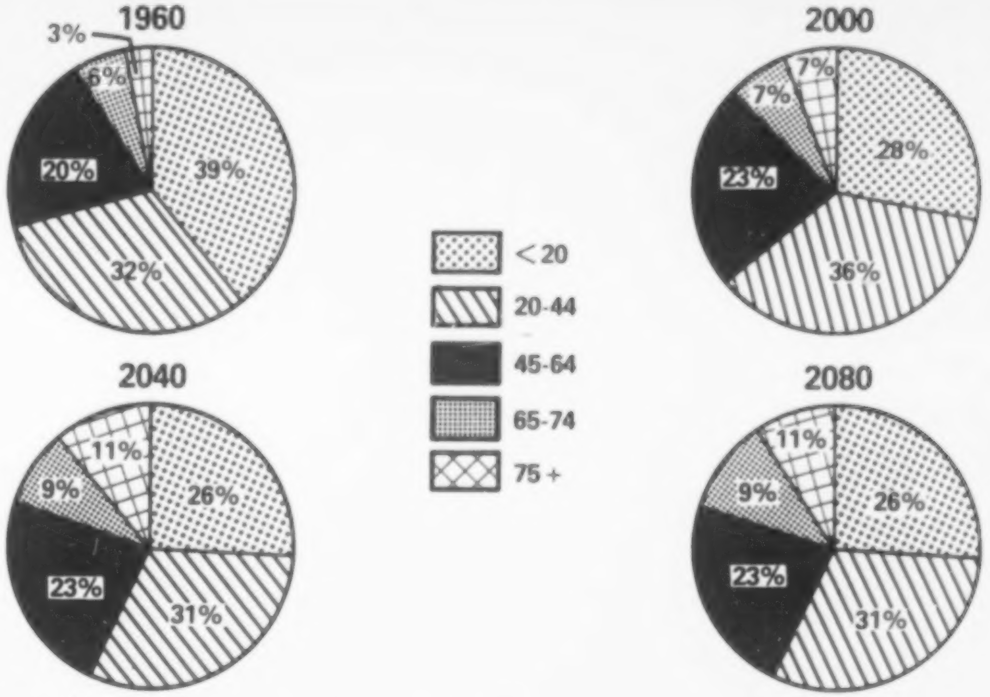
SOURCE: Social Security Administration

Age structure of the U.S. population, 2080



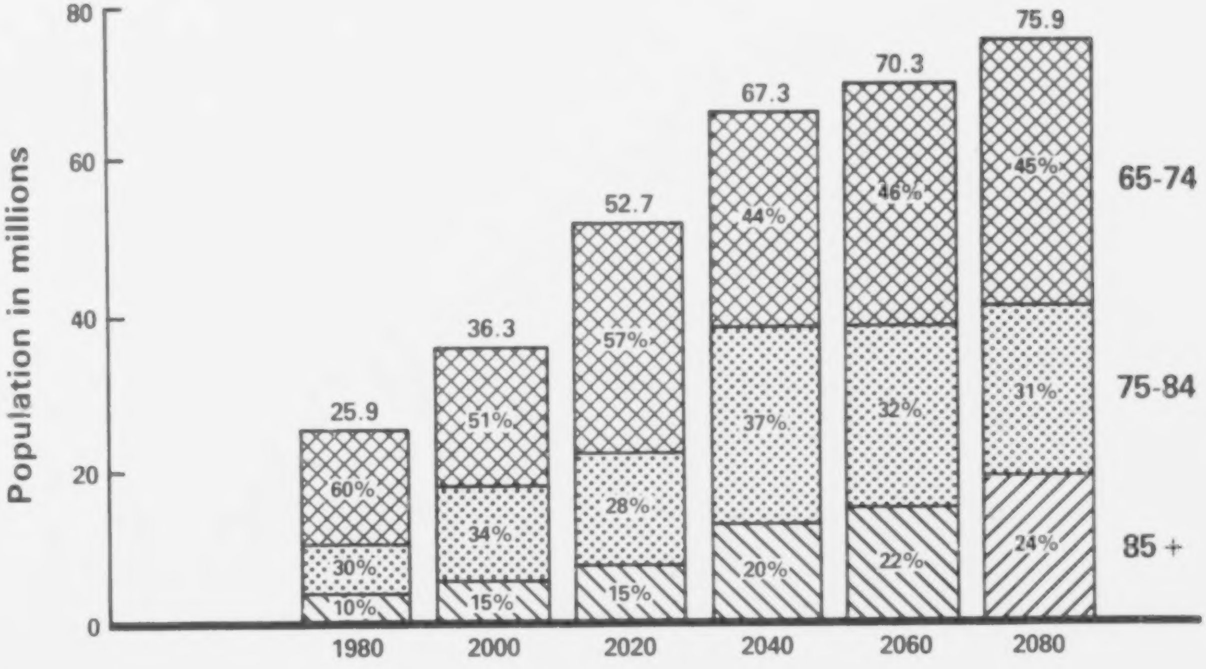
SOURCE: Social Security Administration

Age distribution of U.S. population, selected years



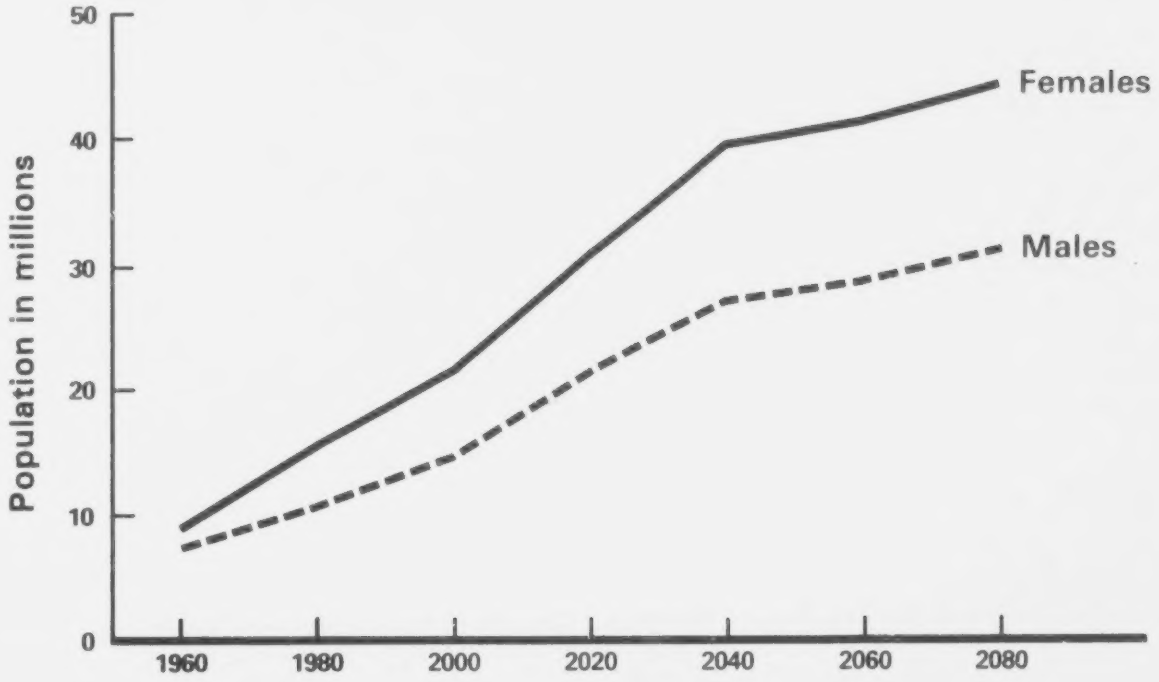
SOURCE: Social Security Administration

Population distribution, age 65 and over



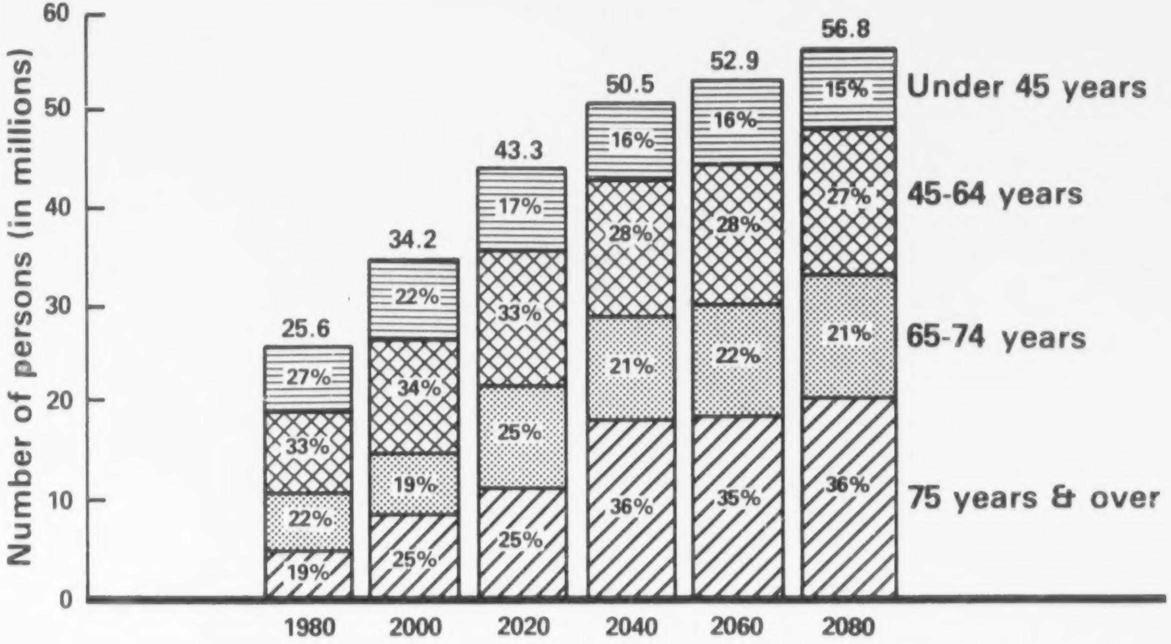
SOURCE: Social Security Administration

Number of persons age 65 and over by sex



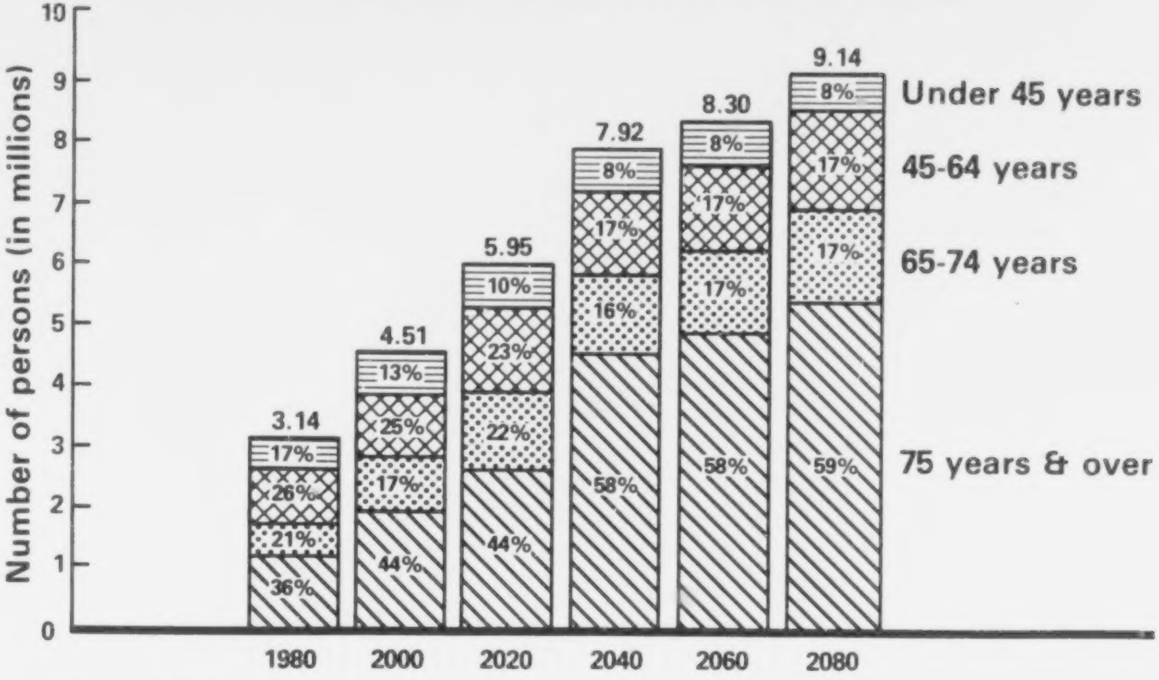
SOURCE: Social Security Administration

Number and distribution of persons with limitation of activity due to chronic condition by age



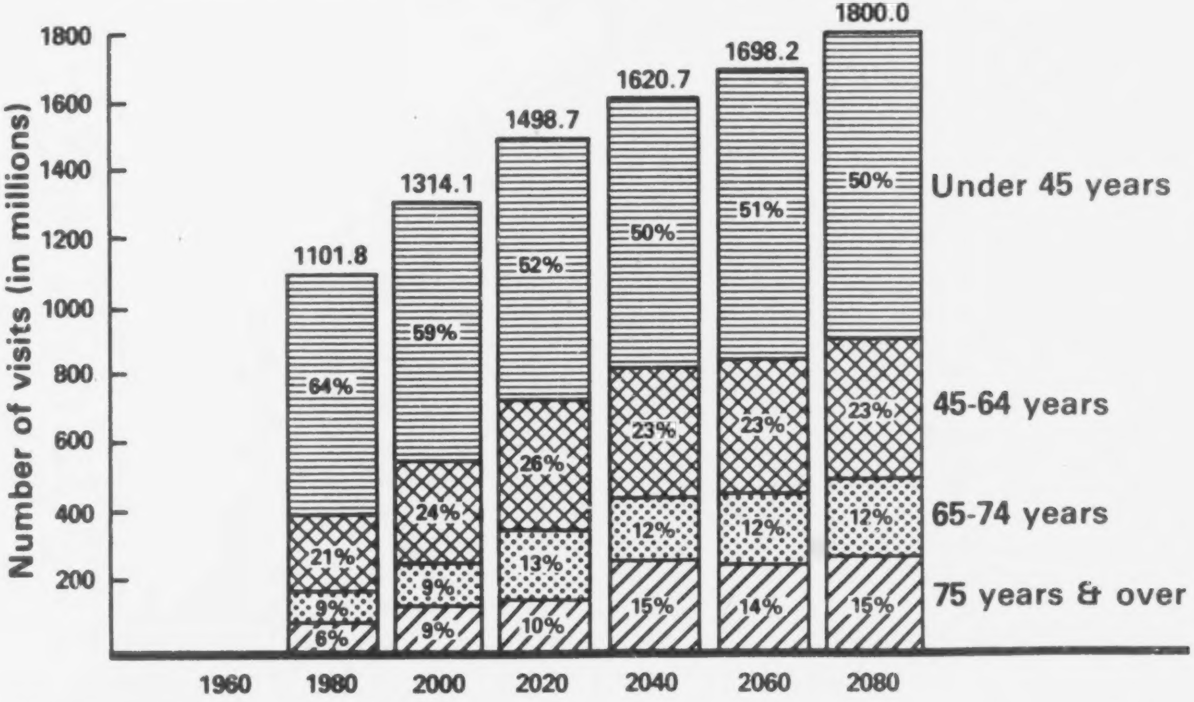
SOURCE: National Center for Health Statistics

Number and distribution of persons with limitations in activities of daily living



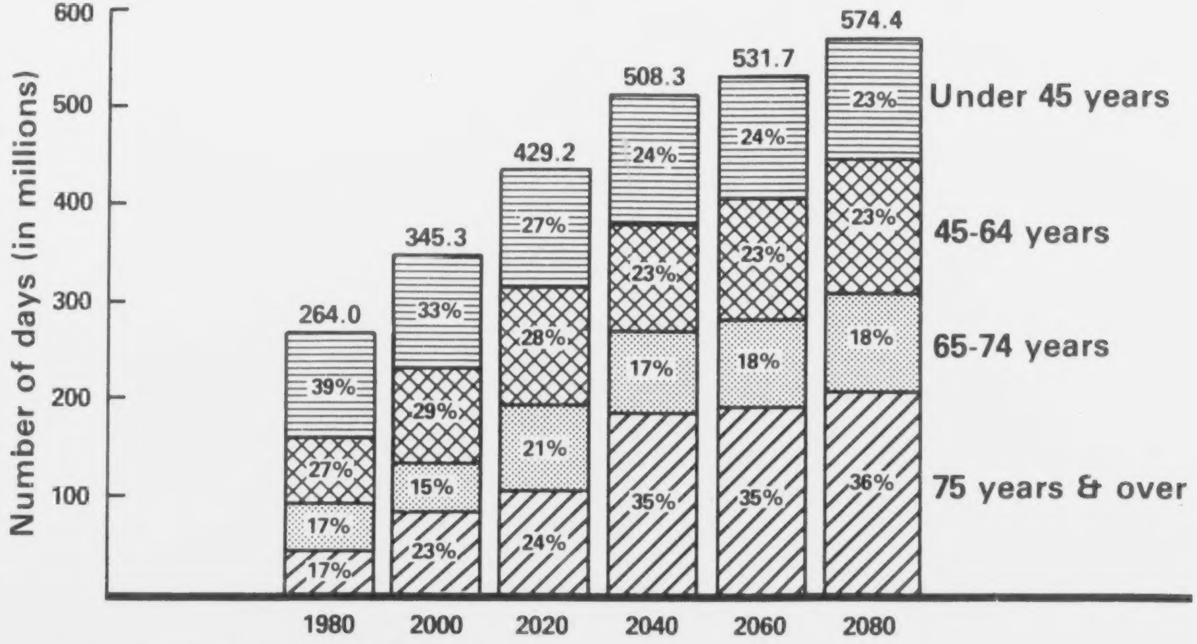
SOURCE: National Center for Health Statistics

Number and distribution of physician visits



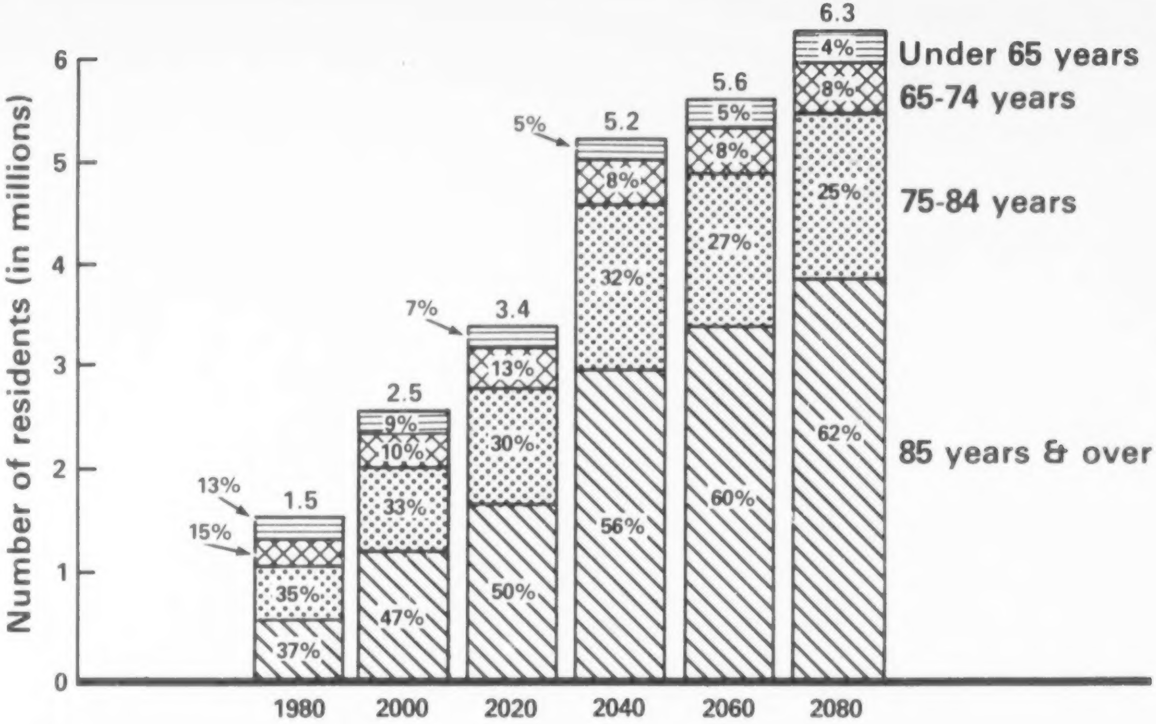
SOURCE: National Center for Health Statistics

Number and distribution of short-stay hospital days by age



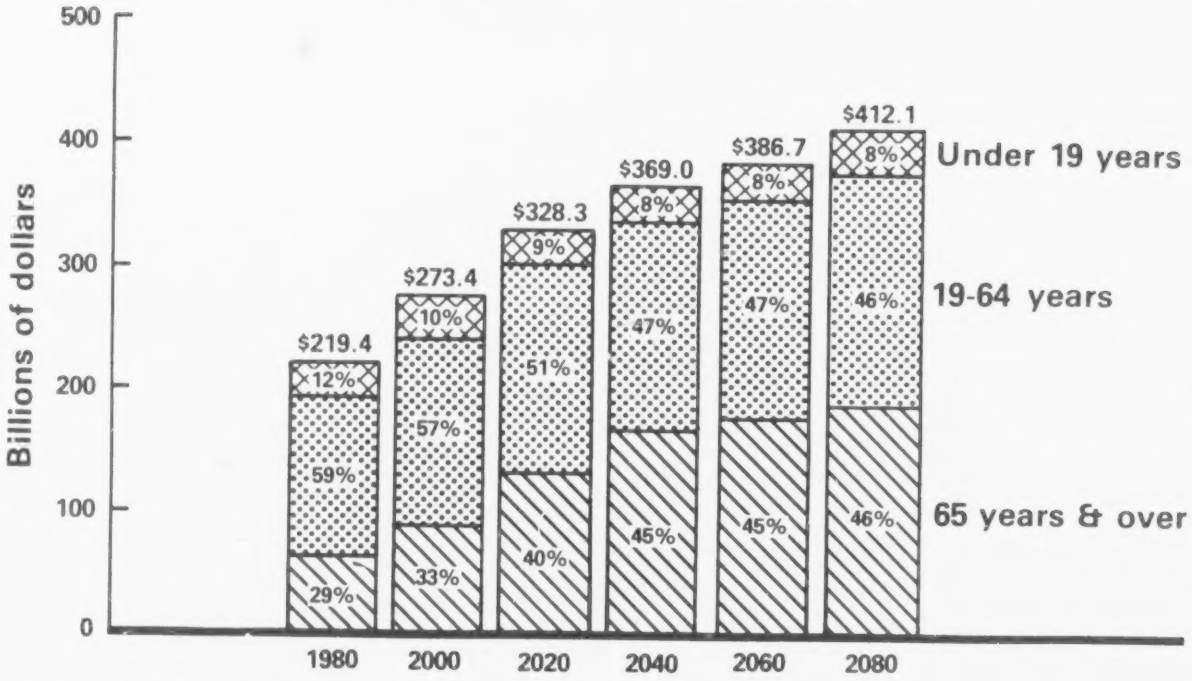
SOURCE: National Center for Health Statistics

Number and distribution of nursing home residents



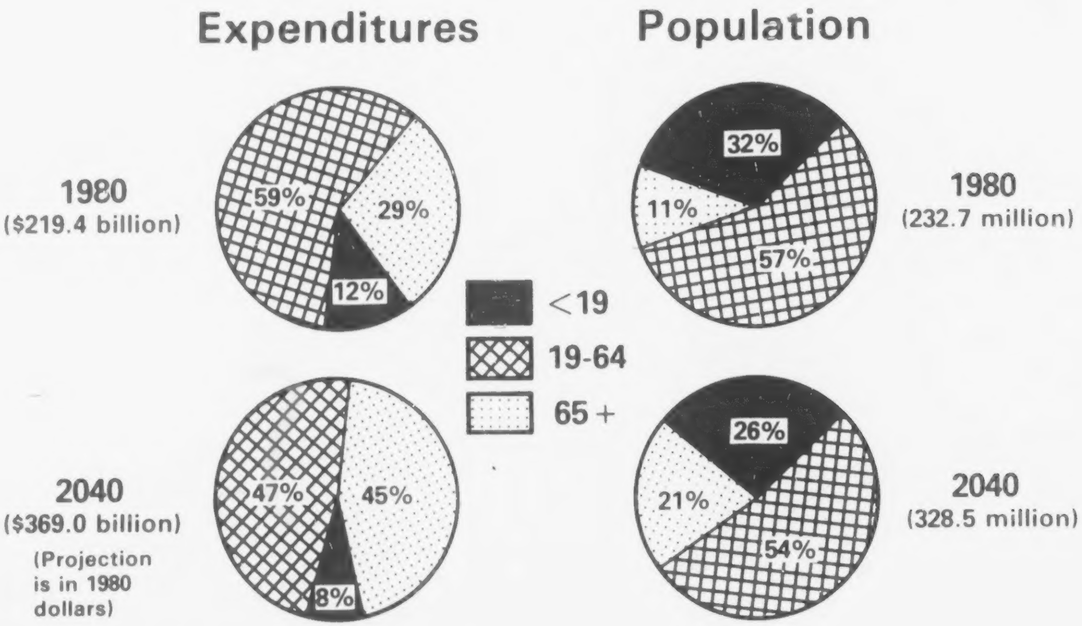
SOURCE: National Center for Health Statistics, projected from 1977 estimates

Personal health care expenditures by age (constant 1980 dollars)



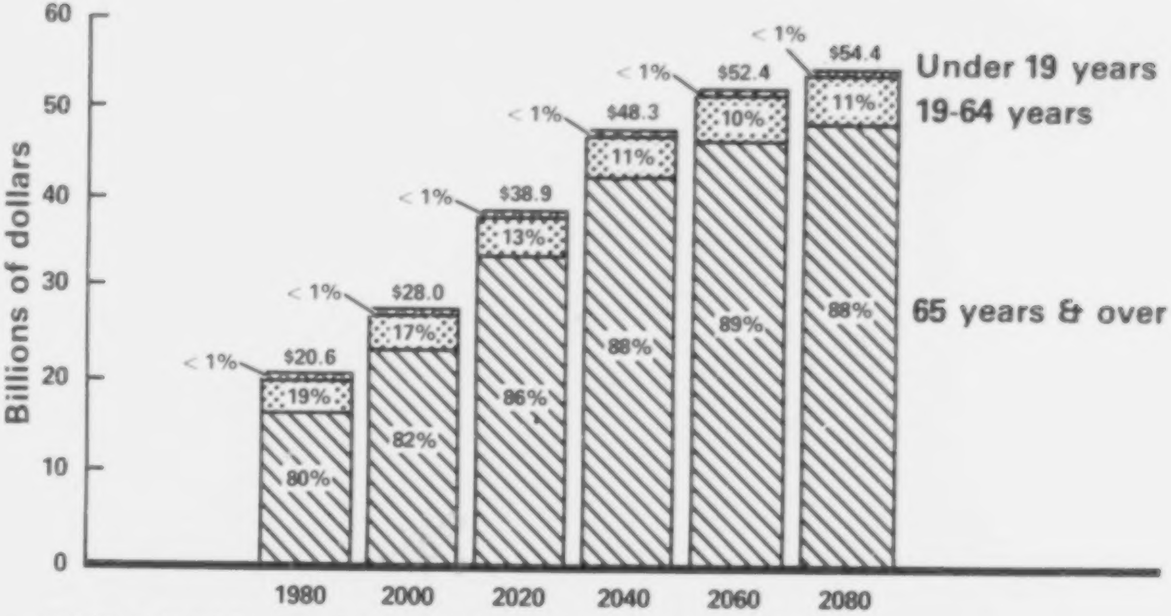
SOURCE: Projected from Health Care Financing Administration estimates for 1978

Percent distribution of personal health care expenditures and population by age group and year



SOURCE: Projected from Health Care Financing Administration estimate for 1978

Nursing home expenditures by age
(constant 1980 dollars)



SOURCE: Projected from Health Care Financing Administration estimates for 1978

Table 1. Number and distribution of persons by age and sex: United States, 1960-2080

Age and sex	1960	1980	2000	2020	2040	2060	2080
Total				Number in thousands			
All ages	183,216	232,669	273,949	306,931	328,503	344,816	365,090
Under 20 years of age	70,828	74,045	77,001	80,376	84,234	88,860	93,498
20-44 years of age	59,216	87,145	98,261	97,345	102,160	107,730	113,349
45-64 years of age	36,466	45,587	62,435	76,557	74,853	77,898	82,308
65 years and over	16,706	25,892	36,252	52,653	67,256	70,328	75,935
65-74 years	11,094	15,627	18,334	30,093	29,425	32,433	34,175
75-84 years	4,671	7,688	12,496	14,909	24,565	22,396	23,861
85 and over	941	2,577	5,422	7,651	13,266	15,499	17,899
Male							
All ages	90,513	114,069	133,798	149,538	158,833	166,923	176,811
Under 20 years of age	35,957	37,807	39,334	41,067	43,045	45,416	47,793
20-44 years of age	29,126	43,754	49,424	49,063	51,513	54,346	57,205
45-64 years of age	17,852	22,086	30,592	37,616	36,935	38,484	40,710
65 years and over	7,578	10,422	14,448	21,792	27,340	28,677	31,103
65-74 years	5,168	6,819	8,250	13,779	13,559	15,050	15,943
75-84 years	2,043	2,838	4,741	5,907	9,895	9,180	9,865
85 and over	367	765	1,457	2,106	3,886	4,447	5,295
Female							
All ages	92,703	118,600	140,151	157,393	169,670	177,893	188,279
Under 20 years of age	34,871	36,238	37,667	39,309	41,189	43,444	45,705
20-44 years of age	30,090	43,391	48,837	48,282	50,647	53,384	56,144
45-64 years of age	18,614	23,501	31,843	38,941	37,918	39,414	41,598
65 years and over	9,128	15,470	21,804	30,861	39,916	41,651	44,832
65-74 years	5,926	8,808	10,084	16,314	15,866	17,383	18,232
75-84 years	2,628	4,850	7,755	9,002	14,670	13,216	13,996
85 and over	574	1,812	3,965	5,545	9,380	11,052	12,604
Total				Percent distribution			
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 20 years of age	38.7	31.8	28.1	26.2	25.6	25.8	25.6
20-44 years of age	32.3	37.5	35.9	31.7	31.1	31.2	31.0
45-64 years of age	19.9	19.6	22.8	24.9	22.8	22.6	22.5
65 years and over	9.1	11.1	13.2	17.2	20.5	20.4	20.8
65-74 years	6.1	6.7	6.7	9.8	9.0	9.4	9.4
75-84 years	2.5	3.3	4.6	4.9	7.5	6.5	6.5
85 and over	0.5	1.1	2.0	2.5	4.0	4.5	4.9
Male							
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 20 years of age	39.7	33.1	29.4	27.5	27.1	27.2	27.0
20-44 years of age	32.2	38.4	36.9	32.8	32.4	32.6	32.4
45-64 years of age	19.7	19.4	22.9	25.2	23.3	23.1	23.0
65 years and over	8.4	9.1	10.8	14.6	17.2	17.2	17.6
65-74 years	5.7	6.0	6.2	9.2	8.5	9.0	9.0
75-84 years	2.3	2.5	3.5	4.0	6.2	5.5	5.6
85 and over	0.4	0.7	1.1	1.4	2.4	2.7	3.0
Female							
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 20 years of age	37.6	30.6	26.9	25.0	24.3	24.4	24.3
20-44 years of age	32.5	36.6	34.8	30.7	29.9	30.0	29.8
45-64 years of age	20.1	19.8	22.7	24.7	22.3	22.2	22.1
65 years and over	9.8	13.0	15.6	19.6	23.5	23.4	23.8
65-74 years	6.4	7.4	7.2	10.4	9.4	9.8	9.7
75-84 years	2.8	4.1	5.5	5.7	8.6	7.4	7.4
85 and over	0.6	1.5	2.8	3.5	5.5	6.2	6.7

SOURCE: Social Security Administration, Office of the Actuary, Actuarial Study No. 85, July 1981

Table 2. Death rates by five-year age group for selected causes by sex: United States, 1968-2080

Sex, year and age	Cause of death[1]					
	All causes	Diseases of the heart	Malignant neoplasms	Vascular diseases	Accidents suicides homicides	Respiratory diseases
MALE	Number of deaths per 100,000 population					
1968						
65-69 years of age..........	4,224.8	1,883.0	875.7	533.7	163.1	319.2
70-74 years of age..........	6,128.2	2,747.8	1,158.5	948.8	186.1	495.7
75-79 years of age..........	8,836.2	4,000.1	1,436.1	1,622.7	248.9	716.4
80-84 years of age..........	12,755.8	5,854.8	1,674.9	2,752.5	352.7	993.1
85 years and over...........	21,732.0	10,078.0	1,936.1	5,443.9	599.8	1,823.2
1980						
65-69 years of age..........	3,312.3	1,374.8	909.0	316.7	113.4	253.7
70-74 years of age..........	5,000.7	2,097.1	1,272.2	587.5	138.1	428.7
75-79 years of age..........	7,929.1	3,363.4	1,735.3	1,148.8	201.1	744.9
80-84 years of age..........	11,185.3	4,871.9	2,051.1	1,844.0	263.4	1,109.9
85 years and over...........	16,077.8	7,418.1	2,055.5	3,127.7	380.0	1,613.6
2000						
65-69 years of age..........	2,706.1	941.5	1,042.8	180.4	74.6	202.1
70-74 years of age..........	4,202.4	1,488.7	1,518.3	348.1	90.1	384.9
75-79 years of age..........	6,738.2	2,443.9	2,132.3	692.3	131.0	750.3
80-84 years of age..........	9,465.0	3,542.8	2,557.0	1,095.3	172.2	1,236.1
85 years and over...........	12,997.3	5,256.6	2,557.2	1,770.3	250.1	1,903.2
2020						
65-69 years of age..........	2,526.6	832.4	1,004.5	153.2	74.3	209.7
70-74 years of age..........	3,916.4	1,316.2	1,462.8	295.5	89.8	399.6
75-79 years of age..........	6,267.7	2,160.9	2,054.4	587.8	130.6	779.6
80-84 years of age..........	8,794.8	3,132.5	2,463.7	929.9	171.6	1,289.1
85 years and over...........	12,028.9	4,647.5	2,464.0	1,502.8	249.3	1,985.5
2040						
65-69 years of age..........	2,368.0	738.0	965.1	130.4	74.3	218.2
70-74 years of age..........	3,664.8	1,166.9	1,405.4	251.6	89.8	415.9
75-79 years of age..........	5,856.2	1,915.9	1,973.8	500.5	130.6	811.4
80-84 years of age..........	8,209.1	2,777.3	2,367.0	791.9	171.6	1,341.6
85 years and over...........	11,190.0	4,120.5	2,367.3	1,279.8	249.3	2,066.4
2060						
65-69 years of age..........	2,226.3	654.3	927.2	111.1	74.3	227.1
70-74 years of age..........	3,440.8	1,034.6	1,350.2	214.3	89.3	432.9
75-79 years of age..........	5,492.1	1,698.6	1,896.3	426.3	130.6	844.5
80-84 years of age..........	7,693.7	2,462.4	2,274.1	674.4	171.6	1,396.3
85 years and over...........	10,456.3	3,653.2	2,274.3	10,89.8	249.3	2,150.7
2080						
65-69 years of age..........	2,099.6	580.1	890.8	94.6	74.3	236.4
70-74 years of age..........	3,241.5	917.3	1,297.2	182.5	89.8	450.5
75-79 years of age..........	5,170.2	1,506.0	1,821.9	363.0	130.6	878.9
80-84 years of age..........	7,240.6	2,183.1	2,184.9	574.3	171.6	1,453.3
85 years and over...........	9,815.7	3,238.9	2,185.1	928.1	249.3	2,238.4

See footnotes at end of table

Table 2. Death rates by five-year age group for selected causes by sex: United States, 1968-2080—Continued

Sex, year and age	Cause of death[1]					
	All causes	Diseases of the heart	Malignant neoplasms	Vascular diseases	Accidents suicides homicides	Respiratory diseases
FEMALE	Number of deaths per 100,000 population					
1968						
65-69 years of age..........	2,145.5	870.6	495.0	341.9	63.0	89.7
70-74 years of age..........	3,327.3	1,467.5	623.3	630.1	80.3	135.6
75-79 years of age..........	5,610.8	2,583.4	813.4	1,250.2	134.1	250.7
80-84 years of age..........	9,278.7	4,396.1	963.6	2,388.1	228.1	478.5
85 years and over...........	18,425.0	8,850.1	1,223.6	5,261.5	513.1	1,210.6
1980						
65-69 years of age..........	1,650.8	584.9	524.1	194.7	44.6	87.7
70-74 years of age..........	2,619.4	1,048.8	669.0	386.8	57.2	141.8
75-79 years of age..........	4,607.1	2,024.7	894.6	821.7	89.2	247.4
80-84 years of age..........	7,369.4	3,418.2	1,064.4	1,575.6	136.8	401.0
85 years and over...........	12,829.4	6,323.1	1,105.5	3,093.6	228.3	845.7
2000						
65-69 years of age..........	1,367.6	369.5	596.6	103.8	28.7	86.5
70-74 years of age..........	2,115.8	679.2	763.5	208.2	34.5	141.7
75-79 years of age..........	3,571.0	1,333.5	996.0	444.0	49.8	236.0
80-84 years of age..........	5,388.3	2,255.3	1,119.1	849.1	70.1	345.9
85 years and over...........	8,691.9	4,105.7	1,049.7	1,619.4	106.0	629.6
2020						
65-69 years of age..........	1,271.0	326.6	563.3	88.1	29.2	89.8
70-74 years of age..........	1,953.9	600.4	720.9	176.7	35.0	147.2
75-79 years of age..........	3,274.4	1,178.7	940.4	376.8	50.7	245.1
80-84 years of age..........	4,904.7	1,993.6	1,056.3	720.7	71.3	359.0
85 years and over...........	7,858.6	3,629.1	989.3	1,400.0	107.8	653.3
2040						
65-69 years of age..........	1,184.3	289.6	530.4	75.1	29.8	93.5
70-74 years of age..........	1,810.1	532.3	678.9	150.5	35.7	153.2
75-79 years of age..........	3,013.5	1,045.0	885.5	320.9	51.7	255.1
80-84 years of age..........	4,483.8	1,767.5	994.7	613.7	73.7	373.7
85 years and over...........	7,142.4	3,217.6	931.6	1,192.2	110.0	679.9
2060						
65-69 years of age..........	1,106.6	256.7	499.5	63.9	30.4	97.3
70-74 years of age..........	1,681.7	471.9	639.3	128.2	36.5	159.5
75-79 years of age..........	2,781.8	926.5	833.9	273.3	52.7	265.5
80-84 years of age..........	4,111.6	1,567.1	936.7	522.7	74.2	388.9
85 years and over...........	6,513.1	2,852.7	877.2	1,015.3	112.2	707.6
2080						
65-69 years of age..........	1,036.9	227.6	470.4	54.4	31.0	101.3
70-74 years of age..........	1,567.1	418.4	602.0	109.1	37.2	166.0
75-79 years of age..........	2,575.8	821.5	785.3	232.7	53.8	276.3
80-84 years of age..........	3,782.6	1,389.4	882.1	445.1	75.7	404.7
85 years and over...........	5,960.3	2,529.2	826.1	864.6	114.4	736.5

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[1] The cause of death codes based on the International Classification of Diseases, Eighth Revision follow:

Diseases of the heart (390-398, 402, 404, 410-429)
Malignant neoplasms (140-209)
Vascular diseases (400-401, 403, 430-458, 582-584)
Accidents, suicide, and homicide (E800-E989)
Diseases of the respiratory system (460-519)

SOURCE: Social Security Administration, Office of the Actuary, unpublished

Table 3. Number and distribution of persons with limitation of activity due to chronic conditions by age and sex: United States, 1980-2080

Age and sex	1980	2000	2020	2040	2060	2080
Total			Number in millions			
All ages	25.6	34.2	43.3	50.5	52.9	56.8
Under 45 years of age	6.8	7.5	7.5	7.9	8.3	8.8
45-64 years of age	8.6	11.7	14.4	14.1	14.7	15.5
65-74 years of age	5.5	6.5	10.7	10.4	11.5	12.1
75 and over	4.7	8.4	10.7	18.1	18.4	20.4
Male						
All ages	12.7	16.7	21.4	24.3	25.5	27.4
Under 45 years of age	3.7	4.0	4.0	4.2	4.4	4.7
45-64 years of age	4.5	6.2	7.6	7.5	7.8	8.2
65-74 years of age	2.8	3.4	5.7	5.6	6.2	6.6
75 and over	1.8	3.1	4.1	7.0	7.0	7.8
Female						
All ages	12.9	17.4	21.9	26.2	27.4	29.4
Under 45 years of age	3.1	3.4	3.5	3.7	3.9	4.1
45-64 years of age	4.1	5.6	6.8	6.6	6.9	7.3
65-74 years of age	2.7	3.1	5.0	4.8	5.3	5.5
75 and over	3.0	5.3	6.6	11.1	11.4	12.5
Total			Percent distribution			
All ages	100.0	100.0	100.0	100.0	100.0	100.0
Under 45 years of age	26.5	22.0	17.3	15.6	15.8	15.4
45-64 years of age	33.4	34.4	33.2	27.9	27.7	27.3
65-74 years of age	21.5	19.0	24.6	20.6	21.7	21.4
75 and over	18.6	24.7	24.8	35.9	34.8	35.9
Male						
All ages	100.0	100.0	100.0	100.0	100.0	100.0
Under 45 years of age	28.5	24.0	18.8	17.3	17.5	17.2
45-64 years of age	35.1	36.9	35.5	30.7	30.5	30.1
65-74 years of age	22.2	20.4	26.6	23.0	24.4	24.1
75 and over	14.3	18.8	19.0	28.9	27.6	28.7
Female						
All ages	100.0	100.0	100.0	100.0	100.0	100.0
Under 45 years of age	24.5	20.1	15.9	14.0	14.1	13.8
45-64 years of age	31.8	31.9	31.0	25.3	25.1	24.7
65-74 years of age	20.8	17.6	22.6	18.4	19.3	18.8
75 and over	22.9	30.5	30.5	42.3	41.5	42.7

SOURCE: National Center for Health Statistics, Office of Analysis and Epidemiology Program

Table 4. Number and distribution of persons with limitations in activities of daily living by age and sex: United States, 1980-2080

Age and sex	1980	2000	2020	2040	2060	2080
			Number in thousands			
Total						
All ages..........	3,141.7	4,509.1	5,951.3	7,922.4	8,295.6	9,144.6
Under 45 years of age...	545.0	602.1	605.9	635.8	670.8	706.0
45-64 years of age......	817.2	1,131.9	1,391.8	1,366.6	1,423.9	1,506.3
65-74 years of age......	647.8	783.7	1,309.0	1,288.1	1,429.8	1,514.6
75 and over.............	1,131.7	1,991.3	2,644.7	4,631.9	4,771.2	5,417.8
Male						
All ages..........	1,411.6	1,996.7	2,629.3	3.393.6	3,557.1	3,905.3
Under 45 years of age...	250.6	276.4	278.4	292.2	308.2	324.4
45-64 years of age......	419.6	581.2	714.7	701.8	731.2	773.5
65-74 years of age......	300.0	363.0	606.3	596.6	662.2	701.5
75 and over.............	441.3	776.1	1,030.0	1,803.1	1,855.5	2,105.9
Female						
All ages..........	1,730.1	2,512.5	3,322.0	4,528.8	4,738.5	5,239.3
Under 45 years of age...	294.4	325.8	327.4	343.7	362.5	381.6
45-64 years of age......	397.5	550.7	677.1	664.8	692.7	732.8
65-74 years of age......	347.8	420.8	702.7	691.5	767.5	813.1
75 and over.............	690.4	1,215.3	1,614.8	2,828.9	2,915.7	3,311.9
			Percent distribution			
Total						
All ages..........	100.0	100.0	100.0	100.0	100.0	100.0
Under 45 years of age...	17.3	13.4	10.2	8.1	8.1	7.7
45-64 years of age......	26.0	25.1	23.4	17.2	17.2	16.5
65-74 years of age......	20.6	17.4	22.0	16.3	17.2	16.6
75 and over.............	36.0	44.2	44.4	58.5	57.5	59.2
Male						
All ages..........	100.0	100.0	100.0	100.0	100.0	100.0
Under 45 years of age...	17.8	13.8	10.6	8.6	8.7	8.3
45-64 years of age......	29.7	29.1	27.2	20.7	20.6	19.8
65-74 years of age......	21.3	18.2	23.1	17.6	18.6	18.0
75 and over.............	31.3	38.8	39.2	53.1	52.1	53.9
Female						
All ages..........	100.0	100.0	100.0	100.0	100.0	100.0
Under 45 years of age...	17.0	12.9	9.9	7.6	7.6	7.3
45-64 years of age......	23.0	21.9	20.4	14.7	14.6	14.0
65-74 years of age......	20.1	16.7	21.2	15.3	16.2	15.5
75 and over.............	39.9	48.4	48.6	62.5	61.6	63.2

SOURCE: National Center for Health Statistics, Office of Analysis and Epidemiology Program

Table 5. Number and distribution of physician visits by age and sex: United States, 1980-2080

Age and sex	1980	2000	2020	2040	2060	2080
			Number in millions			
Total						
All ages..........	1,101.8	1,314.1	1,498.7	1,620.7	1,698.2	1,800.0
Under 45 years of age...	705.7	767.9	777.9	815.8	860.6	905.2
45-64 years of age......	230.4	315.1	386.2	377.4	392.7	414.9
65-74 years of age......	99.6	116.5	190.8	186.5	205.4	216.3
75 and over.............	66.1	114.6	143.8	241.0	239.6	263.6
Male						
All ages..........	459.9	547.3	627.0	677.5	710.4	754.4
Under 45 years of age...	301.1	325.9	332.0	348.2	367.5	386.7
45-64 years of age......	96.9	134.2	165.1	162.1	168.9	178.6
65-74 years of age......	37.8	45.7	76.3	75.1	83.4	88.3
75 and over.............	24.2	41.5	53.6	92.0	90.7	100.8
Female						
All ages..........	641.9	766.8	871.8	943.2	987.8	1,045.6
Under 45 years of age...	404.6	442.0	445.9	467.6	493.0	518.5
45-64 years of age......	133.5	180.9	221.2	215.4	223.9	236.3
65-74 years of age......	61.8	70.8	114.5	111.4	122.0	128.0
75 and over.............	41.9	73.1	90.2	149.0	149.0	162.9
			Percent distribution			
Total						
All ages..........	100.0	100.0	100.0	100.0	100.0	100.0
Under 45 years of age...	64.0	58.5	51.9	50.3	50.7	50.3
45-64 years of age......	20.9	24.0	25.8	23.3	23.1	23.0
65-74 years of age......	9.0	8.9	12.7	11.5	12.1	12.0
75 and over.............	6.0	8.7	9.6	15.9	14.2	14.6
Male						
All ages..........	100.0	100.0	100.0	100.0	100.0	100.0
Under 45 years of age...	65.4	59.6	53.0	51.4	51.7	51.3
45-64 years of age......	21.1	24.5	26.3	23.9	23.8	23.7
65-74 years of age......	8.2	8.4	12.2	11.1	11.7	11.7
75 and over.............	5.3	7.6	8.5	13.5	12.8	13.4
Female						
All ages..........	100.0	100.0	100.0	100.0	100.0	100.0
Under 45 years of age...	63.0	57.7	51.2	49.6	49.9	49.6
45-64 years of age......	20.8	23.6	25.4	22.8	22.7	22.6
65-74 years of age......	9.6	9.2	13.1	11.8	12.4	12.2
75 and over.............	6.5	9.5	10.3	15.7	15.1	15.5

SOURCE: National Center for Health Statistics, Office of Analysis and Epidemiology Program

Table 6. Number and distribution of short-stay hospital days by age and sex: United States, 1980-2080

Age and sex	1980	2000	2020	2040	2060	2080
			Number in millions			
Total						
All ages	264.0	345.3	429.2	508.3	531.7	574.4
Under 45 years of age	103.2	114.0	114.7	120.4	127.0	123.6
45-64 years of age	71.0	98.3	120.9	118.7	123.7	130.8
65-74 years of age	44.1	53.3	89.1	87.6	97.3	103.0
75 and over	45.8	79.7	104.6	181.7	183.8	206.9
Male						
All ages	123.6	163.6	206.9	246.6	257.9	278.9
Under 45 years of age	41.5	45.6	45.9	48.3	50.9	53.6
45-64 years of age	35.4	49.0	60.3	59.2	61.7	65.2
65-74 years of age	23.4	28.3	47.3	46.5	51.6	54.7
75 and over	23.4	40.7	53.4	92.6	93.7	105.3
Female						
All ages	140.4	181.7	222.3	261.7	273.9	295.6
Under 45 years of age	61.7	68.4	68.7	72.1	76.1	80.0
45-64 years of age	35.6	49.3	60.6	59.5	62.0	65.6
65-74 years of age	20.7	25.0	41.8	41.1	45.6	48.4
75 and over	22.4	38.9	51.2	89.0	90.1	101.6
			Percent distribution			
Total						
All ages	100.0	100.0	100.0	100.0	100.0	100.0
Under 45 years of age	39.1	33.1	26.7	23.7	23.9	23.3
45-64 years of age	26.9	28.5	28.2	23.3	23.3	22.8
65-74 years of age	16.7	15.4	20.8	17.2	18.3	17.9
75 and over	17.4	23.1	24.3	35.7	34.6	36.0
Male						
All ages	100.0	100.0	100.0	100.0	100.0	100.0
Under 45 years of age	33.6	27.9	22.2	19.6	19.8	19.2
45-64 years of age	28.6	30.0	29.1	24.0	23.9	23.4
65-74 years of age	18.9	17.3	22.8	18.9	20.0	19.6
75 and over	19.0	24.8	25.8	37.6	36.4	37.8
Female						
All ages	100.0	100.0	100.0	100.0	100.0	100.0
Under 45 years of age	44.0	37.6	30.9	27.5	27.8	27.1
45-64 years of age	25.3	27.1	27.3	22.7	22.6	22.2
65-74 years of age	14.7	13.8	18.8	15.7	16.7	16.4
75 and over	15.9	21.4	23.0	34.0	32.9	34.4

SOURCE: National Center for Health Statistics, Office of Analysis and Epidemiology Program

Table 7. Number and distribution of nursing home residents by age and sex: United States, 1980-2080

Age and sex	1980	2000	2020	2040	2060	2080
Total			Number in thousands			
All ages..........	1,511.3	2,541.8	3,370.8	5,227.1	5,630.7	6,273.8
Under 65 years of age...	196.4	225.8	241.5	248.1	260.7	274.6
65 years and over.......	1,314.9	2,316.1	3,129.3	4,979.0	5,370.0	5,999.2
65-74 years of age....	226.6	265.1	434.4	424.5	467.5	492.4
75-84 years of age....	525.4	849.8	1,005.6	1,651.4	1,500.3	1,595.7
85 and over...........	562.8	1,201.2	1,689.4	2,903.1	3,402.2	3,911.2
Male						
All ages..........	421.5	640.9	864.8	1,303.6	1,373.3	1,542.5
Under 65 years of age...	93.3	107.4	115.0	118.3	124.4	131.1
65 years and over.......	328.2	533.5	749.8	1,185.3	1,248.8	1,411.4
65-74 years of age....	86.6	104.8	175.0	172.2	191.1	202.5
75-84 years of age....	134.5	224.7	280.0	469.0	435.1	467.6
85 and over...........	107.1	204.0	294.8	544.0	622.6	741.3
Female						
All ages..........	1,089.8	1,900.9	2,506.1	3,923.5	4,257.4	4,731.3
Under 65 years of age...	103.1	118.3	126.5	129.8	136.2	143.4
65 years and over.......	986.7	1,782.6	2,379.5	3,793.7	4,121.2	4,587.9
65-74 years of age....	140.0	160.3	259.4	252.3	276.4	289.9
75-84 years of age....	390.9	625.1	725.6	1,182.4	1,065.2	1,128.1
85 and over...........	455.7	997.2	1,394.6	2,359.1	2,779.6	3,169.9
Total			Percent distribution			
All ages..........	100.0	100.0	100.0	100.0	100.0	100.0
Under 65 years of age...	13.0	8.9	7.2	4.7	4.6	4.4
65 years and over.......	87.0	91.1	92.8	95.3	95.4	95.6
65-74 years of age....	15.0	10.4	12.9	8.1	8.3	7.8
75-84 years of age....	34.8	33.4	29.8	31.6	26.6	25.4
85 and over...........	37.2	47.3	50.1	55.5	60.4	62.3
Male						
All ages..........	100.0	100.0	100.0	100.0	100.0	100.0
Under 65 years of age...	22.1	16.8	13.3	9.1	9.1	8.5
65 years and over.......	77.9	83.2	86.7	90.9	90.9	91.5
65-74 years of age....	20.5	16.3	20.2	13.2	13.9	13.1
75-84 years of age....	31.9	35.1	32.4	36.0	31.7	30.3
85 and over...........	25.4	31.8	34.1	41.7	45.3	48.1
Female						
All ages..........	100.0	100.0	100.0	100.0	100.0	100.0
Under 65 years of age...	9.5	6.2	5.0	3.3	3.2	3.0
65 years and over.......	90.5	93.8	95.0	96.7	96.8	97.0
65-74 years of age....	12.9	8.4	10.4	6.4	6.5	6.1
75-84 years of age....	35.9	32.9	29.0	30.1	25.0	23.8
85 and over...........	41.8	52.5	55.6	60.1	65.3	67.0

SOURCE: National Center for Health Statistics, Office of Analysis and Epidemiology

Table 8. Personal health care expenditures by age: United States, 1980-2080

Age	1980	2000	2020	2040	2060	2080
Total			Amount in billions[1]			
All ages................	$219.4	$273.4	$328.3	$369.0	$386	$412
Under 19 years of age.........	25.9	26.9	28.1	29.5	31[illegible]	[illegible]
19-64 years of age............	129.0	156.2	169.0	172.0	180.4	190.2
65 years and over.............	64.5	90.3	131.2	167.5	175.2	189.2
Total			Percent distribution			
All ages................	100.0	100.0	100.0	100.0	100.0	100.0
Under 19 years of age.........	11.8	9.8	8.6	8.0	8.0	7.9
19-64 years of age............	58.8	57.1	51.5	46.6	46.7	46.2
65 years and over.............	29.4	33.0	40.0	45.4	45.3	45.9

[1] Amount in constant 1980 dollars

SOURCE: Projected from Health Care Financing Administration estimates for 1978

Table 9. Nursing home expenditures by age: United States, 1980-2080

Age	1980	2000	2020	2040	2060	2080
Total			Amount in billions[1]			
All ages................	$ 20.6	$ 28.0	$ 38.9	$ 48.3	$ 52.4	$ 54.4
Under 19 years of age.........	0.1	0.1	0.1	0.1	0.1	0.1
19-64 years of age............	4.0	4.8	5.2	5.3	5.6	5.9
65 years and over.............	16.5	23.1	33.6	42.9	46.7	48.4
Total			Percent distribution			
All ages................	100.0	100.0	100.0	100.0	100.0	100.0
Under 19 years of age.........	0.5	0.4	0.3	0.2	0.2	0.2
19-64 years of age............	19.4	17.1	13.4	11.0	10.7	10.8
65 years and over.............	80.1	82.5	86.4	88.8	89.1	89.0

[1] Amount in constant 1980 dollars

SOURCE: Projected from Health Care Financing Administration estimates for 1978

DEMOGRAPHIC CHANGES IN THE UNITED STATES: THE ECONOMIC AND SOCIAL CONSEQUENCES INTO THE 21ST CENTURY

TUESDAY, JULY 29, 1986

Congress of the United States, Subcommittee on Economic Resources, Competitiveness, and Security Economics of the Joint Economic Committee,
Washington, DC.

The subcommittee met, pursuant to recess, at 9:30 a.m., in room 1334, Longworth House Office Building, Hon. James H. Scheuer (member of the subcommittee) presiding.

Present: Representative Scheuer.

Also present: William R. Buechner, professional staff member.

OPENING STATEMENT OF REPRESENTATIVE SCHEUER, PRESIDING

Representative Scheuer. The Joint Economic Committee's Subcommittee on Economic Resources, Competitiveness, and Security Economics is holding its second day of hearings in a series of three, with the third scheduled for Thursday, July 31, the day after tomorrow, on the subject of our demographic future—changes, ebbs and flows—and what this means for our economy over the long pull, what it means for our society.

In the first hearing which we held last Friday, our witnesses included, Commissioner Norwood, your very distinguished and articulate and eloquent boss, Secretary of Labor Bill Brock, and he presented some fascinating population projections. Not everyone who is here at this meeting today could be at the hearing last Friday, so let me give you just a very brief summary of the population trends that will transform our Nation as we move into the 21st century.

First, there will be a major shift in the composition of our population from a preponderance of young people to a preponderance of older people. The median age of our population will rise from 30 years of age in 1980, just 6 years ago, to 40 years of age by the year 2010. And because women are having fewer children and because people are living longer, the baby boom generation is moving through the age structure much like a snake digesting a rabbit. It goes through that long body in a big lump and the lump moves on. There will be a big rise in the number of elderly people early in the next century which will cause major changes and require major readjustments in our labor market. We will have to think about the age of retirement. We will have to think about the new burdens on our social security retirement system. We will have to think about the new load on our health care system with people living very much longer.

Second, we will see big changes in the labor force. The baby boomers who were born in the late 1940's, 1950's, early 1960's, are now just entering their prime working years and they are creating a swelling demand for good, well-paid jobs. As they grow older and approach retirement there are significantly fewer young people coming behind them to take their place.

For example, the number of 35- to 40-year-olds will reach a peak of 44 million 15 years from now and then in the next 10 years, in the succeeding 10 years, that number will drop significantly to less than 37 million from 44 million, and the same thing will happen at the senior worker level, those between the ages of 45 and 64, only a few years later.

The economy is going to have to adjust from an abundance of workers to the possibility of a real labor shortage and this is going to pose extraordinary challenges to American businessmen as we move into the next century.

Third, children, the leaders of tomorrow, will be a declining fraction of our total population. Right now children, kids, are just about 26 percent of our population. By the year 2000, only 14 years away, this will go down a percentage point to 25 percent, and to less than 21 percent of our population by the middle of the next century, as they will be overbalanced not only by the old section of our population but even more so by the old-old.

Now qualitatively speaking, getting away from the numbers, children make up the majority of Americans living in poverty. We are going to have to learn how to protect children and meet their needs for services and support of all kinds, even as we struggle as a Nation to meet the growing needs of other population groups, particularly the very old. We have to remember that the kids in our society don't have a voice. They don't have political clout. We're going to have to be concerned for them. We're going to have to act as their proxies more effectively and more productively than we have up to now.

Fourth, blacks and other minorities will make up an increasing share of our population, rising from about 14 percent today to 23 percent by the middle of the next century. That's almost a doubling of their percentage in our population.

Now these groups bear a disproportionate share of poverty and unemployment, and one of the major challenges facing the public and the private sector is to do a better job of providing education, literacy training, and job training to benefit these groups as they become a growing proportion of our population.

The years ahead of us will be times of great challenges and of opportunities for our country. The scarcity of labor as the baby-boom generation grows older will encourage employers to look more to minorities and women and the handicapped to fill important jobs, as Labor Secretary Brock pointed out to us last Friday. Businesses will have much stronger incentives to increase labor efficiencies, to invest in workers of all ages and talents, to invest in labor-saving technology, and perhaps in technology that will substitute for labor.

We have to make it possible for older workers to remain on the job as long as they want to. We have to harness technology to enhance the productivity and the viability and the worth of individual members of the labor force.

The challenge before government will be to improve the quality of education, to provide better training and retraining, especially literacy training, and to help businesses and workers react to an environment of rapid change.

Our witnesses today are experts on the economic consequences of these massive changes that are taking place in our population.

We will begin with Commissioner Janet Norwood, head of the Bureau of Labor Statistics, who will discuss in detail the labor force changes and occupational changes that lay ahead of us. Commissioner Norwood, I know will be back before the Joint Economic Committee on Friday to discuss the July employment and unemployment figures, but today's hearing is on a much longer-range subject—the profound changes that are occurring in the United States and how they will affect our economy and our society in the 21st century—and this may give you some respite from the day-to-day chores of coming up with bottom line statistics on a day-to-day, week-to-week, month-to-month basis.

Commissioner Norwood will then be followed by Roger Semerad, Assistant Secretary for Employment and Training, who has responsibility for one of Government's most important roles in the years ahead, that of training our young people for highly skilled jobs that will be created in our economy during the next 10 years and into the next century, training them for the three-quarters of all the jobs that will be available a decade or so hence that will require some degree of postsecondary education—three-quarters of all the jobs a decade or so hence, by the turn of the century, will require some postsecondary education.

And how is our society going to face that challenge?

We will then have a panel of four witnesses who will discuss some of the specific long-term changes that our country will face as our population changes. Mr. Marc Tucker, executive director of the Carnegie Forum on Education and the Economy; Mr. Nathan Quinones, chancellor of the New York City Board of Education and a valued and respected neighbor of mine; Mr. William Kolberg, president of the National Alliance of Business; and Mr. George Sternlieb of Rutgers University, who is an expert on housing.

Before we hear from Commissioner Norwood, I would like very much to thank the able staff of the Republican Resource Center and the Population Reference Bureau for the invaluable assistance they have provided us in organizing these hearings and I wish to give my special thanks to Bill Buechner of the Joint Economic Committee staff for the superb and highly professional assistance and hard work that he's given us in putting these hearings together.

So, Commissioner Norwood, why don't you take 8 or 10 minutes to go over your statement informally and I'm sure we will have some questions for you.

STATEMENT OF HON. JANET L. NORWOOD, COMMISSIONER, BUREAU OF LABOR STATISTICS, DEPARTMENT OF LABOR

Ms. Norwood. Thank you very much, Congressman. I appreciate very much the opportunity to talk to you about some of the long-range developments which we see in the labor force that I think have enormous implications for the future.

As you know, our labor force has proved to be extraordinarily dynamic. It has expanded very rapidly during times of rapid demand. But at the same time, changes in tastes and preferences for nonmarket activities, including education and retirement, has been accommodated.

The baby-boom generation and its absorption into the labor force has probably been one of the greatest examples of the resiliency of our labor force. Nearly 76 million people were born between 1946 and 1964 and many of them entered the labor force in the late 1960's and 1970's. Between 1965 and 1980, the population of labor-force age rose by 41 million and the labor force itself expanded by 32 million. Even though 1980 included a short recession, the number of workers increased by 28 million even though the proportion of persons of working age with jobs only increased from 56 to 59 percent. Thus, less than one-fifth of the employment increase represented an increase likelihood of working, and more than four-fifths was due to a greater number of people of working age. This is an issue of great importance because it really says that in order to keep the unemployment rate where it is we have to keep running just to stand still since there are more and more people coming into the labor force.

At the same time that the baby-boom was being accommodated in the work force, there was a rapid increase in labor force activity among women, particularly married women. Between 1965 and 1980, the labor force participation of married women increased from 35 to 50 percent. But, the sheer size of the baby boom dwarfed even this extraordinary change in labor market behavior.

Now as you have indicated, as the baby boom ages, its members continue to have strong competition among themselves for jobs. Traditionally, the 25- to 34-year-olds have experienced an unemployment rate that was lower than the rate for all workers. This has been less so in recent years as the baby-boom cohort completely took over that age category and the decline in the number of teenagers reduced some of the upward pressure on the overall unemployment rate.

Today's teenagers are part of a generation born of low fertility rates. As this generation reaches labor force age, labor force growth slows. BLS projects the labor force will grow by only about 1 percent a year between 1990 and 1995, compared with almost 3 percent a year in the 1970's.

The slowdown in labor force growth is also due to fewer older persons at work, but here the cause is not a change in population but in participation. Currently, only about 16 percent of all men 65 and older are in the labor force, compared with 46 percent in 1950. Among men in the 55 to 64 year age group nearly 9 in 10 were in the labor force in 1950 and today that number is 7 in 10.

What caused this dramatic decline in work activity? There are a lot of factors, many of them financial, which have enabled people to retire earlier. Social security benefits and the option to retire with reduced benefits at an earlier age were important legislative changes. During recent recessions, many firms faced with laying off workers have offered their older, often higher paid workers inducement to retire.

With less labor force growth at the younger and the older years, the prime-age workers will constitute a larger share of the labor force in the years ahead. We project that by 1995 nearly three-fourths of the labor force will be between 25 and 54 years of age; the proportion was only two-thirds in 1985. Persons in this age bracket generally have more stability on the job and a stronger attachment to the world of work than do younger people and we look to them to provide increases in productivity.

But we must remember that minority groups have not prospered as well as the rest of the population. The unemployment rate for blacks has been hovering around 15 percent, more than twice that for whites. Moreover, with a teenage unemployment rate around 40 percent, many of our black youth may reach the prime working age without having gained successful employment experiences.

While the proportion of our overall population with jobs is currently at a record level—60.8 percent, the proportion of blacks at work is only 54.2 percent. For teenagers, that disparity is very much larger. About one-fourth of blacks and about one-half of whites are working.

Now our labor force projections indicate that a larger share of labor force growth in the future will occur among minorities. Blacks are expected to account for one-fifth of the labor force growth in the coming decade, reflecting their higher birth rates during the past several decades. Hispanic workers are also becoming a larger share of our labor force.

Will the jobs our economy is likely to generate in the future accommodate the emerging labor force? On the one hand, the projected strong growth in highly skilled professional, managerial, and technical occupations will make it easier for the growing proportion of college educated workers to find the kinds of jobs for which they will be searching. On the other hand, the shift away from factory operative and laborer occupations may make it much more difficult for persons with less education to find jobs. In general, highly trained people have the best job opportunities. While some of them may have to settle for jobs outside of their specific field, they will still have more options open to them than those whose formal education has stopped with high school graduation.

All of these things are really quite interrelated. I haven't even mentioned yet the rapid growth in the service producing portion of our economy. Yet it was this sector that provided most of the jobs for the large numbers of young people and women who entered the labor force, at the same time that it provided increased education to the baby-boom generation, health services to our growing older population, and data processing and other services to our business community. The service sector now employs 85 percent of all professional specialty workers. Unlike many of the other major industrialized nations, we have consistently provided more and more jobs for our growing labor force, with job expansion pausing only briefly during periods of major recessions.

All of the changes have had enormous impact on the family. More than half of all husband-wife families now have two or more earners, with the wife's income making a substantial contribution to her family's well-being.

With the increased labor force activity among wives, there has occurred, of course, an increase in the number of children whose mothers work outside the home. Nearly 10 million children under the age of 6, and another 15 million aged 6 to 13 years had a mother in the labor force in 1985. Most of these mothers worked full time.

This suggests that the availability of child care is a matter of critical concern to American parents. A study done a few years ago showed that the most popular form of care for children under age 5 was either in their own homes or in someone else's home. Only 16 percent of the mothers used a group care center. The remaining 10 percent cared for their children themselves while working. That is, I believe, going to be a major issue for the future.

Now, Congressman, when we look at some of these demographic and employment trends projected for the decade ahead, we have elements which suggest that in some ways the task of improving condictions of life for all Americans, including those in need, may be somewhat easier and we have a number of developments that suggest that it will be very difficult indeed. If we look at those developments making the task easier, both the population and the labor force of the country are expected to grow more slowly than in the past. So the pressure for constantly increasing the rate of job creation will be less than it has been over the last few decades.

Second, young people 16 to 24 years of age who always have higher jobless rates than the rest of the population will decline in numbers. As a consequence, they will make up a smaller proportion of the labor force of the future than in the past, thus creating less upward pressure on the unemployment rate.

Third, the projected shift away from factory operative and labor occupations to higher skilled professional, managerial, and technical occupations will make it easier in the future for the projected growing proportion of college educated workers to find satisfying jobs.

Fourth, the labor force of the future will be increasingly made up of mature workers between the ages of 25 to 54 who tend to be in the labor force to stay, and therefore, should result in increased rates of productivity growth.

But there are developments on the other side. The population is aging. Older citizens who are largely dependent on pension or other forms of nonwork income will constitute a much larger group in the future than in the past.

Nearly all of the labor force increase in the coming decade, nearly all, will come from women and members of minority groups who tend to have a hard time in the labor force and who are disproportionately represented among the discouraged and the poor.

Third, the lack of fit between job requirements and training among those looking for work may increase because many black youngsters will enter the labor force without the training and education necessary for the kinds of jobs that will be created. This population is not very mobile and many will be located in geographic areas where the numbers of jobs are shrinking.

It's clear, Congressman, that the changing composition of the labor force will present enormous challenges in the years that lie ahead. I am prepared to answer any questions you may have.

[The prepared statement of Ms. Norwood follows:]

PREPARED STATEMENT OF HON. JANET L. NORWOOD

Mr. Chairman and Members of the Committee:

I am pleased to be here today to discuss with you some Bureau of Labor Statistics (BLS) data on demographic changes and their impact on the labor market.

Changes in the age distribution of the population as well as changes in the propensity to work at different stages in the life cycle have enormous implications for labor force developments. The U.S. labor force has proved to be extraordinarily dynamic, expanding rapidly during times of rapid demand. At the same time, changes in tastes and preferences for non-market activities including education and retirement have been accommodated.

One example of the resiliency of the labor force has been its ability to absorb the baby boom generation. Nearly 76 million persons were born between 1946 and 1964 and many of them entered the labor force in the late 1960's and the 1970's. Between 1965 and 1980, the population of labor force age rose by 41 million and the labor force itself expanded by 32 million. While 1980 included a short recession, the number of workers increased by

28 million even though the proportion of persons of working age with jobs only increased from 56 to 59 percent. Thus, less than one-fifth of the employment increase represented an increased likelihood of working, and more than four-fifths was due to a greater number of people of working age.

This ratio is particularly surprising because at the same time that the baby boom was being accommodated in the work force, there was a rapid increase in the labor force activity among women, particularly married women. Between 1965 and 1980, the labor force participation of married women increased from 35 percent to 50 percent. But, the sheer size of the baby boom dwarfed even this extraordinary change in labor market behavior.

As the baby boom ages, its members continue to have strong competition among themselves for jobs. Traditionally, 25-34 year olds have experienced an unemployment rate that was lower than the rate for all workers. This has been less so in recent years as the baby-boom cohort completely took over that age category and the decline in the number of teenagers reduced some of the upward pressure on the overall unemployment.

Today's teenagers are part of a generation born of low fertility rates. As this generation reaches labor force age, labor force growth slows. BLS projects the labor force to grow by only about 1 percent per year between 1990 and 1995, compared with almost 3 percent per year in the 1970's.

The slowdown in labor force growth is also due to fewer older persons at work. In this case, however, the cause is not changes in population but in participation. In 1950, 46 percent of all men 65 and older were in the labor force. Currently, only 16 percent remain on the job or are looking for work. Among men age 55 to 64, nearly 9 in 10 were in the labor force in 1950, compared with fewer than 7 in 10 today.

What caused this dramatic decline in work activity? A number of factors, most of which are financial, have enabled many people to retire earlier than had been the case in the past. The indexation of Social Security benefits and the option to retire with reduced benefits at age 62 were important legislative changes. Also, during recent recessions, many firms faced with laying-off workers have offered their older, often higher paid, workers inducements to retire. These incentives have taken the form of early pensions, increased benefits, or lump-sum payments.

With less labor force growth at the younger and older years, prime-age workers will constitute a larger share of the labor force in years ahead. BLS projects that by 1995 nearly three-fourths of the labor force will be between 25 and 54 years of age; the proportion was two-thirds in 1985. Persons in this age bracket generally have more stability on the job and a stronger attachment to the world of work than do young people. Thus, this change in the age mix bodes well for increased productivity in the workplace.

We must also remember, however, that minority groups have not prospered as well as the rest of the population. The unemployment rate for blacks workers has been hovering around 15 percent compared with a rate near 6 percent for whites. Moreover, with a teenage unemployment rate around 40 percent, many of our black youth may reach the prime working age without having gained successful employment experiences.

While the proportion of our overall population with jobs is currently at a record level--60.8 percent, the proportion of blacks at work is only 54.2 percent. For teens, about one-fourth of blacks and one-half of whites are working. Among adult men, three-quarters of whites, but less than two-thirds of blacks are employed. For adult women, however, the proportion with jobs is about equal--nearly 52 percent.

BLS labor force projections indicate that a larger share of labor force growth in the future will occur among minorities. Blacks are expected to account for one-fifth of the labor force growth in the coming decade, reflecting their higher birth rates during the past several decades.

Hispanic workers are also becoming a larger share of our labor force. Labor market indicators for Hispanics tend to be poorer than for white workers, but better than for blacks.

Will the jobs our economy is likely to generate in the future accommodate the emerging labor force? On the one hand, the projected strong growth in highly skilled professional, managerial, and technical occupations will make it easier for the growing proportion of college educated workers to find the kinds of job for which they will be searching. On the other hand, the shift away from factory operative and laborer occupations may make it more difficult for persons with less education to find jobs. In general, highly trained persons have the best job opportunities. While some of them may have to settle for jobs outside of their specific field, they still tend to have more options open to them. Today's labor force includes more people with some college than people whose formal education stopped with high school graduation.

It is important to keep in mind the interrelation of all of these factors. For example, I have not yet mentioned the rapid growth of the service-producing portion of our economy. Yet, it was this sector that provided most of the jobs for the large numbers of youth and women who entered the labor force, at the same time that it provided increased education to the baby boom generation, health services to our growing older population, and data processing and other services to our business community. The service sector employs 85 percent of all professional specialty workers including most physicians, lawyers, architects, computer scientists, and teachers. Unlike many of the other major industrialized nations, we have consistently provided more and more jobs for our growing labor force, with job expansion pausing only briefly during major recessions. Our flexibility has been demonstrated as we absorbed the baby boom generation and the increased number of women who wanted to enter the work force.

All of the changes have had enormous impact on the family. More than half of all husband-wife families now have two or more earners, with the wife's income making a substantial contribution to her family's well-being. The average working wife contributes 28 percent of her family's annual income; among wives who have year-round full-time jobs, the average contribution is 40 percent.

With the increased labor force activity among wives, there has occurred; of course, an increase in the number of children whose mothers work outside the home. Nearly 10 million children under the age of 6, and another 15 million aged 6 to 13 years had a mother in the labor force in 1985. Most of these mothers worked full-time.

The availability of child care is of particular interest to all American parents. A study done a few years ago showed that the most popular form of care for children under age 5 was either in their own homes (32 percent) or in someone else's home (42 percent). Only 16 percent of the mothers used a group care center. The remaining 10 percent cared for their child (or children) themselves while working.

Mr. Chairman, I have appreciated the opportunity to be here today. I shall be happy to try to answer questions that you might have.

Representative SCHEUER. Well, thank you very much, Commissioner, for your interesting, fact-filled testimony.

In your prepared statement, you ask, "Will the jobs our economy is likely to generate in the future accommodate the emerging labor force?"

We could ask the question in another way and perhaps we will a little bit later. Is the emerging labor force likely to be able to fill the literacy and numeracy and skill requirements of the jobs that are likely to emerge in the future? Do you have any views on that?

Ms. NORWOOD. I believe that perhaps the most serious problem that we face as a country is the problem of workers without sufficient ability to read and write to perform in the workplace.

We have found in the work we have done with some of the States in obtaining plant closing information that one of the States attempted to develop a training program for these people. They found that many of these workers who had lost their jobs were in their 40's and 50's and had gotten their jobs many years ago. Some were unable to fill out a job application because they couldn't read well enough for that. And I'm sure that Assistant Secretary Semerad will be telling you about the effort that he and Secretary Brock are leading to attempt to do something about that problem. It is extremely important.

Representative SCHEUER. Could you see the emergence of a system in our country of a computerized system linking schools and industry and training programs run either by the public or the private sector, where a kid now would be linked with three things—time, training, and skill, and a job? In effect, that kid would be here in 1986 and in 1988 or 1989—here's a kid in Brooklyn or in South Bronx—there will be a job for him in Rochester or Syracuse or Binghamton or Los Angeles for that matter 2 years from now requiring such and such skills. So you're linking a period of time with a requirement of acquiring certain skills and training but with the promise of a job. Perhaps we could get the Xerox Co. or IBM or United States Steel or any number of the Fortune 500 to enter into a program. If they can predict reasonably accurately what their job needs are going to be 2 or 3 years down the pike to give these kids an incentive that if they can acquire respectable literacy and numeracy skills and some kind of job skills that a job will be waiting for them at the end of that 2-year pipeline?

I think they've done this kind of thing in Japan and I've been wondering for the 22 years I've been in Congress and I wondered that aloud for the first 10 years when I was on the Education and Labor Committee, why we couldn't have a computer linkup into which you could input time, training, and a kid at the one end and a job at the other end.

Ms. NORWOOD. Well, I think that a lot can be done certainly to bring youngsters together with jobs and a lot in fact is being done.

One of the major advantages of the labor market in this country, however, is its flexibility. I think it would be a mistake for us to try to plan specific jobs many years into the future. In fact, our work in trying to look years ago at job vacancies suggest that employers are unable—absolutely unable to tell us with any real accuracy how many jobs at which time they are going to need 2 or 3 or 5 years down the road.

That does not suggest that we shouldn't make some attempts to do this, but I don't think, even given all of the wonderful things we can do with the computer, that we are going to be able to get all of these things together.

Programs can be developed certainly with specific companies and with specific groups of people. There is also, as you know, legislation which provides for a system to bring together the job placement people in the States with the vocational educational people in the States so that the process will provide training for people where the jobs will be. The Bureau of Labor Statistics has for many years been involved in that and we have tried our best to bring together the vocational education people and the job service people in the States to talk to each other using labor market information to try to see where they are heading.

Part of the problem in this whole process is the feeling on the part of many people that they want to train people for jobs right where they are, and one of the characteristics of the American population is its flexibility and its ability to move not always large distances but certainly to move in search of jobs.

So I think there is some validity in what you're saying, but I don't see any possibility of a large comprehensive system of that kind.

Representative SCHEUER. I have the feeling that the American vocational education system is not really training kids for the jobs that are out there, that they're out of sync with the times, that they're training kids to be carriage makers and glassblowers. We're not teaching them the trades that they need for any of the hands-on jobs that are available.

Does that reflect your experience or am I being unduly critical?

Ms. NORWOOD. I think that you are right that there are problems out there. Part of the problem is to make available the kind of information that is necessary in order to plan the programs. My feeling has been—and I spend a lot of time out in the States talking to many of these people—is that there is a kind of parochialism out there. For example, we all know that if there's a job for a welder in Rockville and you live in Virginia that you would go out to Rockville if it was a decent job. But the planners often are looking only at their specific geographical limits and I think that's a very serious problem.

Second, there is a problem of getting these people together. There is, as you know, the National Occupational Information Coordinating Committee and the State Occupational Information Coordinating Committees. That whole system throughout the country is an attempt to get the State and national groups to pull together information and to build programs on the basis of it, bringing together the job placement people and the vocational education people. And in some places it works quite well and in other places it doesn't.

Representative SCHEUER. In terms of geography, what do you do with young black and Hispanic youth who are living in the central city core in the so-called ghetto? Do you try and bring jobs into the ghettos by the so-called enterprise zones or do you try to get the kids with the skills and the talents to travel where the jobs are, to go to the suburbs, to fill the need for jobs where they are? Which has experience proved has the soundest result?

Ms. NORWOOD. Well, I think we need some of both, but I would like to defer that to Mr. Semerad who has responsibility for some of these policy decisions.

Representative SCHEUER. Well, Commissioner, you have been extremely helpful and forthright, as you always are, and I look forward to hearing your testimony on Friday on the economic events of the month. Thank you very, very much.

Ms. NORWOOD. Thank you.

Representative SCHEUER. Now we will hear from Assistant Secretary of Labor, Roger Semerad. Secretary Semerad, why don't you go ahead for 8 or 10 minutes and give us an informal synopsis of your statement and then I'll have some questions for you.

STATEMENT OF HON. ROGER D. SEMERAD, ASSISTANT SECRETARY FOR EMPLOYMENT AND TRAINING, DEPARTMENT OF LABOR

Mr. SEMERAD. Thank you, Congressman. I appreciate the opportunity to meet with you here today and I want to congratulate you and the subcommittee for holding these hearings because I think that the national awareness is something that is still very much in its infancy regarding the problems that you are addressing and the kind of information you're gathering now. I'm certainly pleased to have an opportunity to share what we have been doing with you.

I think that within the Nation we have the capacity to resolve these things. I think the question of generating the interest and the awareness and the national will to do it is, I hope, what you're after and we're working with you on that.

You heard Secretary Brock last week discuss the issues and the challenges of the future that are being driven by demographic changes. Commissioner Norwood today has presented more of the BLS projections.

My work really is two tracks. I am trying to do a better job in the employment training area of those pieces of legislation and those programs that are on the books to generate greater yield, which the Secretary has charged me with doing, but at the same time we have to look to the future and there is precious little and has been precious little attention given to future planning.

It seems to be something that we don't address and don't commit ourselves to and clearly much has to be done.

So the other track that I'm on is very much in the year 2000. People say the problems are here today, why the year 2000? Well, the fact is that you do need to—you and your colleagues—have to gather data and address policy legislation without worrying about a constituency or a special interest group or an established group of people who tend not to want change and I think you need to look intellectually at these things with us to see what the implications are.

What are we doing as a matter of national policy to address these issues? We have some suspicions that we have a number of things on the books today that frankly don't respond very well to what the reality is going to be and the realities that we're beginning to see. We need to identify the policy implications and solutions to future problems with a key toward our best investment in human capital in the future.

Now the demographic and labor force highlights of the future show a much different work force and a much different kind of workplace. Let me just recap that quickly, some of what both the Secretary talked about and Ms. Norwood.

We've got slow population and labor force growth. We know that. More women will be at work. We know that. We have a declining number of young workers but substantial increase in minority young workers in the labor force. We know that 80 percent of the new additions to our work force will be women, minorities, and immigrants.

Representative SCHEUER. 80 percent?

Mr. SEMERAD. 80 percent. The rise in the average age of the population will give us the oldest work force in history with unreasonable imbalances in our labor supply and demand due to employment shifts and declining industries. 90 percent of the new jobs will be in the service sector.

Now when we talk about service sector, I know that's a common designation. I really would prefer "service and information sectors," with the downsizing in firms and businesses. We're not going to have the giant plants that we've had in the past.

Most encouraging is that the number of new job entrants will be about equal to the number of new jobs created.

The technological changes are resulting in the need for higher job skills, with workers changing jobs four or five times over the course of their work life.

I think what this does is to provide a window of opportunity for full utilization of young, minority, handicapped, immigrants, and female workers. Basically, there's a potential at the end of this century, assuming even moderate growth in the economy, for everybody to have a job who wants to work.

But there are dysfunctions in our labor force that perhaps will close out the opportunities. They include: illiteracy; the dropout problem; teen pregnancies; welfare dependency; crime; and substance abuse. These all work against this business of being prepared to move into our economy.

I think we have an increased international competition that's already on us, and increased technological advances place a premium on higher literacy and cognitive reasoning skills. We need to equip workers for this new work environment. I mean top to bottom, from the time people are born right on up. We have to address this consciously and selfishly, not as a matter of "is it good." We have to address these issues as a matter of need, not as a matter of what's morally right or what we should be properly doing in this society. We need to do it in order to sustain our place at the top of the competitive international economy.

The aging work force presents its own opportunities and challenges. There are positive consequences. Clearly, an aging work force is more experienced, it's more stable, more reliable. It's becoming more healthy and it has achieved a level of productivity which one can count on and document.

Some of the negative consequences: People working longer puts a lot of pressure on the seniority systems, declining industries, relying on young consumers, probably a more rigid work force, and that's an interesting anomaly. All the experts tell us that the work force in America has got to be more flexible. At the same time, trend lines tell us we're becoming more rigid. Just the fact that we'll be the oldest work force in the history of this Nation suggests it will be a little more rigid. I count the problems of illiteracy as a factor of rigidity. It is clearly hard to see how it would move it to be mobile if we're going to be older and as we get older we become more difficult to retrain, which in spite of all the good things that happen in being older apparently we don't retrain very well.

So we can meet the challenges of the future but we must show a willingness to adapt, as a nation, to change. Implications we have to consider I think—and something I spend a lot of time working on—we've got to have greater emphasis on early childhood education and elimination of illiteracy. We've got to think about the matter of child care, the provision of child care, both public and private, with emphasis I might add on education. We need to address the matters of life-long training and retraining and work settings. We've got to look forward more to public and private programs to assist dislocated workers and their adjustment to new jobs because dislocation, which is certainly now high on everybody's list of concerns, is just the beginning of a fact of life. The competitive economy of the future says that industries are going to rise and fall much more quickly which means workers are going to be dislocated in larger numbers and not as some sort of a cyclical consideration but a very real reflection of changing economies.

We need to address in this Nation the matter of rapid reemployment of people and retraining if necessary rather than providing disincentives that slow the process of getting workers into new jobs, finding new jobs, getting them trained, whatever. We have to have more positive labor-management relations and we have to provide alternatives to retirement. And that might be alternative work schedules, part-time jobs for the elderly.

But in all of this, it's not particularly useful to address or lay blame to anybody. We have just come off a wildly successful industrial age and we have to understand that we're moving into a new age and that requires changes. And a lot of the Government interventions that were effective in the industrial age of this Nation will probably not be particularly effective in a much more rapidly changing technological age. And we need to recognize that Government has limits and constrained resources.

So what we're doing is we're examining these things that are coming up, Congressman, at the turn of the century. There's something exotic about the new millennium, the beginning of this new millennium, and everybody that's going to be in that work force at the turn of the century has been born and they're here at various ages, so we're trying to address what the realities are likely to be and then run existing policies against those realities to see if you have the kind of cost benefits and I think we all would strive to and then begin to fashion policy options that the Congress and the administration and the American people and business can address and consider as the way to go as the best investment in taxpayers' dollars.

These in a nutshell are my concerns as reflected in my prepared statement and I would be glad to address any specific questions you might have. Thank you very much.

[The prepared statement of Mr. Semerad follows:]

PREPARED STATEMENT OF HON. ROGER D. SEMERAD

Mr. Chairman and Members of the Subcommittee:

I am pleased to have this opportunity to appear before you today. Last week, Secretary Brock discussed with you some of the issues and challenges presented us because of demographic changes we face in the coming decades -- particularly the changing age structure of the American population. And earlier today, Commissioner Norwood presented to you, in some detail, projections by the Bureau of Labor Statistics of demographic and labor force trends for the next decade.

Today, I would like to discuss some of the implications of the trends we have identified. As you may know, shortly after coming on board at the Department of Labor last year, I launched a major study of trends in the work force through the year 2000 -- and the implications of those trends. This Work Force 2000 study was undertaken because Secretary Brock and I felt that for too long government had been overwhelmingly reactive -- preoccupied with dealing with the pressures of immediate concerns, ignoring the fact that the genesis of many problems often can be identified, and measures taken to alleviate or avoid them, years before the problems are upon us.

Let me begin by restating some of the demographic and labor force trends that Secretary Brock, Commissioner Norwood, and other witnesses have identified. Over the next fifteen years, the American work force and economy will be greatly affected by several demographic facts:

- First, both the population and the labor force will grow very slowly over the next fifteen years -- much more slowly than during the past 30 years.
- Second, more women will enter the work force, although the rate of increase will taper off. By the year 2000, approximately 47 percent of the work force will be women, and 60 percent of women will be at work.
- Third, the number of young workers will decline both relatively and absolutely, but the proportion of the youth labor force that is minority will increase substantially, most markedly among non-English speakers and blacks. By 1990, one out of five new labor force entrants will be a minority youth.
- Fourth, immigrants will represent the largest share of the increase in the population and the work force since the First World War. A number of factors suggest that, in the absence of radical policy changes, the number of legal and illegal immigrants will continue to be substantial. Together, women, minorities and immigrants will account for over 80 percent of the

net additions to the labor force between now and the year 2000.

- Fifth, and of particular relevance of these hearings, the average age of the population and the work force will rise, as the pool of young workers entering the labor force shrinks. The aging of the baby boom generation -- those born between 1946 and 1964 -- will cause the American population to become much older, on average, throughout the balance of the century. The median age of the population, which had been declining until 1970, will reach 36 by the year 2000, six years older than at any time in the history of the nation. The average age of the work force will increase from 35 today to 39 by the year 2000. Interestingly, the population over 65 will grow more slowly for the balance of the century than it has in recent years. "Maturing" rather than aging might be the most apt description of this demographic trend.

In addition to these demographic changes, geographic and occupational shifts in employment also will affect the American work force. For example:

- Regional shifts in employment are expected to continue, with some regions of the country experiencing declines. Labor supply and demand will be regionally imbalanced. Geographic areas dependent on single firms or industries will be the most affected by employment changes.

- As Commissioner Norwood has indicated, some sectors of the economy will experience growth, while others will experience decline. For example, jobs will continue to shift from goods-producing industries into the service sector, with 90 percent of the new jobs through 1995 being in the service sector.
- Similarly, there will be a tendency to downsize firms and establishments to make them more competitive.
- Most encouraging is the prospect that the number of new jobs will be roughly equivalent to the number of new labor force entrants.
- Responding to technological change and the need to meet international competition, many of the new jobs, and existing jobs as well, will involve a higher level of analytic skills. Skill requirements of jobs will change more rapidly. These factors, combined with the rapid turnover and change of industries and firms, will result in a changing culture of the American worker, with many workers changing jobs five or six times during their work life.

As you can see, the labor market and workplace of the future will be substantially different from what we have at present. The demographic trends that I have outlined present a paradox. On the one hand, a "window of opportunity" creates potential for every American worker and prospective worker who wishes a job to have one.

On the other hand, an increasing number of dysfunctions in our population and labor force will make this goal difficult to achieve. Let me talk about the "window of opportunity" first.

Between now and the year 2000, labor markets will be tighter than in any recent time and the pool of new workers from which employers hire and train will be unlike anything they have faced before. The hiring queue will include many more of the groups having difficulty in obtaining well paid jobs such as minorities, the handicapped, immigrants and women. These tight labor markets for entry level workers should result in higher relative wages for these groups, more hiring and training of the less well prepared entrants, and in increasing use of labor saving technology. This, of course, presents us with tremendous opportunity for full and effective utilization of our young, minority, handicapped, immigrant and female populations in the workplace, and has the potential for narrowing the occupational and earnings gaps that separate economically disadvantaged groups from the mainstream.

But, the dysfunctions in our labor force may close the "window of opportunity" to disadvantaged population groups. At a time, when we, as a Nation, need to make ever greater use of our human resources, our potential work force appears to be afflicted with more and more varied problems than in the past. These include illiteracy and early school leaving, teenage pregnancy, welfare dependency, criminal behavior, and alcohol and drug dependency. And, there is evidence that many of our youth are becoming more cynical about traditional educational values, placing little practical importance on basic literacy and numeric skills, and becoming increasingly alienated from society and institutions. While these functional employment disorders vary in nature, severity, and incidence in the population, together they present considerable and growing barriers to securing employment and enhancing labor productivity.

In addition to these developments on the supply side of the labor market, this Nation faces an unrelenting increase in international competition in virtually all product markets. This guarantees an economy that is constantly undergoing structural adjustment, with technological advances which, on average, place a premium on higher levels of literacy including cognitive and reasoning skills. Even workers who are able to read and write may be ill equipped to step into a new work environment.

The aging of the work force presents its own opportunities and challenges. On the positive side, a more experienced, stable, reliable and generally healthy work force will likely improve productivity. With declining numbers of dependent children and non-working wives, the economic dependency ratio will continue to fall. And with the huge increase in the number of workers over age 40, the national savings rate may rise, which in turn may led to lower real interest rates, stimulating investment and improving productivity.

On the other hand, the aging of the work force could have some negative consequences for the economy and society:

- o The increase of middle-aged workers may put great pressure on seniority systems, with traditional expectations of advancement based on age being undermined by demographics. Also, older workers who lose their jobs will have a particularly difficult time matching previous salaries when they find new jobs.
- o Industries that depend on young consumers for growth may possibly go into decline. Higher education, household furnishings and housing construction are possible examples.
- o Finally, the aging work force may increase the rigidity of the economy. An older, more stable work force will be less likely to move than a younger one. As the baby boomers reach the middle years of mortgages and children in school, their willingness to pull up stakes in response to new opportunities or changing conditions will decline. Similarly, this more mature work force may be harder to train and retrain than today's employees -- at the very time, when such training is becoming more essential.

As I have indicated, I believe the trends we have discussed present us with tremendous opportunities, but also with a challenge. Will we be able to meet the challenge? I personally think so, but only if as a Nation -- including individuals, companies, unions, governments, and other institutions -- we show a greater willingness to adapt to change. We will be required to set higher standards, learn new skills, change existing ways of designing and building products or delivering services, reorient traditional labor-management relationships, and redesign Federal Government programs. Let me take a minute to discuss more specifically some of the policy implications and questions that we must consider in responding to the trends we have discussed.

- Basic educational competencies and literacy will become ever more important. A major challenge in the remaining years of this century is to add as rapidly as possible to the Nation's inventory of human skills and competencies. For children, this may mean much greater emphasis on early childhood education; among teenagers and young adults, it may require a concerted national effort to eliminate illiteracy; for educational systems, it may mean fundamental reforms, with much greater reliance on performance based systems.
- The increase in two earner families and in the number of single parents will increase the demand for quality childcare that places ever more emphasis on educational preparation.
- The changing culture of the American work force to which I have alluded will require literacy in the

workplace, lifelong learning and repeated retraining as workers prepare for new and restructured jobs. Much of the retraining will have to be done in the work setting.

- Because there will continue to be significant worker dislocations, we need to explore ways to assist workers in adjusting to the dislocation and becoming reemployed more quickly. Labor-management agreements should provide for early notification to workers of shutdowns and layoffs and, in some cases, provide for retraining before the layoff occurs. We should make sure that the public and private programs and assistance we provide do not include disincentives that hinder adjustment to a new job or career. The effect of the private pension system on labor mobility is one such issue that should be seriously addressed.
- Labor-management relations will need to be more cooperative than they have been in the past. As Secretary Brock has indicated, because of competitive demands, labor-management relations in the future will be of only two types -- "positive" or none. Those who are not smart enough to conduct positive labor relations will likely go out of business. The same is true of unions -- those that are purely obstructionist and confrontational will likely go out of business.

Close labor-management relations will ensure that workers are trained, retrained, and equipped with the technical skills they need in the face of changing product environments and markets. Cooperative labor-management planning regarding the human resource implications of new technologies is an imperative of the future.

- As the population lives longer and the growth of the labor force slows, we need to consider alternatives to retirement. Despite improved health and longer life expectancies, workers 55 and over are anticipated to continue to decline in absolute numbers as well as proportionally. In part, this decline is associated with the increased coverage of workers 55 and over by pension plans. But, it also may be due to the fact that few viable work options exist for these individuals. Most workers in this age group are faced with the choice of working full-time, year-round, often sacrificing pension benefits, or retiring completely. Undoubtedly, many retirees would work if the types of jobs, hours and wages were appropriate. Older people are more likely to participate in the labor force when employers make available alternative work schedules and part-time jobs. Employers need to recognize that older workers represent a valuable source of skills and work experience. Also, effective sanctions against age discrimination must continue to be enforced.

- Finally, I think we have to recognize the limits of what government -- at any level -- can do about these problems. The constraints we face in Federal spending are too well known to necessitate repeating, and similar constraints exist at the State and local levels. Nonetheless, the next phase in our Work Force 2000 project is to critically examine both private and public options to address many of the issues I have cited today. I am excited by this project and confident that we are engaged in an important effort.

Mr. Chairman, this concludes my prepared statement. At this time, I would be pleased to answer any questions that you or other Subcommittee members may have.

Representative SCHEUER. Well, thank you for your very provocative testimony. I hope this was all approved by the OMB, and that they approve of child care facilities around the country, drug education, sex education in the schools to prevent teenage pregnancies. You have given us a wonderful smorgasbord of new challenges and I appreciate it very much.

Mr. SEMERAD. Well, neither the OMB nor have I suggested that this is all the Government's responsibility.

Representative SCHEUER. Well, let's tick off these programs. Early childhood education. Whose responsibility is that?

Mr. SEMERAD. It seems to me in the context of early childhood education—and I'm speaking really about the preschool child care situation—clearly, with more women entering the work force, child care has got to become very important, as it is becoming, with certain public and private concerns, a matter that's going to be a regular thing. It's not an option. If you want the women in the work force and their productivity and they want to have children, we've got to do something about that.

Then the question is—and I'm not an expert on this—what's the quality of that babysitting, if you will? Should we start kids reading—there was a big argument you remember 20 years ago—do we start teaching kids reading in preschool, and a lot of people thought that wouldn't be good for them. As opposed to not learning how to read, I tend to think it's a pretty fair tradeoff in my personal opinion.

But child care is something that is a reality as the women enter the work force and the children need quality time, and I think we should use that time to help them learn.

Representative SCHEUER. Should that be a Government supported program?

Mr. SEMERAD. Certainly not exclusively. I think that there are places and situations as we have now where Federal Government dollars are used to support child care facilities.

Representative SCHEUER. How about preschool? Headstart type of programs?

Mr. SEMERAD. Well, Headstart clearly over time—this past year it's been interesting to see now that they've had longitudinal studies that clearly show the benefits seem to stick over a long period of time.

Representative SCHEUER. Well, we've had longitudinal studies of Headstart programs for a century. I went to a Headstart program when I was 3 years old. We called it nursery school or prekindergarten, but I went to it because my parents could afford it.

Do you think it should be restricted to people whose parents can afford it? You're going to give them a double whammy when they come to school. We talk about is it genetics or is it environment, but here you're saying the kids from the middle- and upper-middle-income families who have a good home environment are also going to get an extra push because their parents had the income to give them this enriched preschool experience.

Are you going to further widen the gap of what happens when 6-year-olds from slum homes, with very poor environments, miserable environments, come up against kids who come from homes that are education factories and, in addition, they've had a couple of years of preschool before entering first grade?

Mr. **Semerad**. I think that clearly as broad as the exposure in the preschool or early childhood or child-caring situation can be is good. I guess one of my questions is that the disadvantaged children who in a prekindergarten setting might get some very exciting things and then they go into a public school that is not nearly as useful or effective for that age, so then you have the loss of the benefits that you might have gotten in preschool and that's a problem.

Representative **Scheuer**. We have found out you're absolutely right, that to do Headstart alone is very frustrating and disillusioning. We have to follow through with what we call the follow-through program. It has to be followed by continually enriched classes in first, second, and third grade and so forth.

Mr. **Semerad**. Right, and when you look at what's needed——

Representative **Scheuer**. What you're saying is a better education works all the way down the line.

Mr. **Semerad**. And when you look at the kinds of jobs, as Commissioner Norwood has pointed out, the kind of jobs and the kinds of skill ability that's going to be required at the end of this formal schooling, you can't drag a magnet through a junkyard and expect it to come out the other end a jet engine. You just can't do that. So we've got to find ways to readjust our priorities against what the realities are going to be.

How are we going to spend our money? I think the matter of doing something in preschool because of mothers working says we're going to have to do something. Now what are we going to do with the time that we have those youngsters before they go into formal education? Maybe we should start formal education sooner.

Representative **Scheuer**. Well, that's what Headstart is all about, and we're starting formal education in a very informal environment.

Mr. **Semerad**. And limited, too.

Representative **Scheuer**. The kids are playing with blocks, playing with clay, but it's all designed to enlarge their senses, their perceptions, to teach them cognitive thinking, teach them how to cerebrate. As I say, rich kids or middle class kids have had this for a century and I'm a product of that and I thank the Lord that my parents had the brains and the income to put me through a Headstart type of program back in 1923. You know, it's sometimes said that local officials know best and that Uncle Sam and the Federal officials should keep their nose out of local officials' business.

I think this is one example that proves the opposite, that Congress knew best and that the executive branch knew best when they started Headstart and Followthrough.

As I say, we've had a living experiment of middle-class and upper-middle-class Americans having enjoyed the benefits of Headstart type of programs for a century, as I said. Most of the leaders of our country today, most of the Members of Congress, most of the Cabinet officers and undercabinet officers in the executive branch I would warrant had a Headstart type of experience when they were kids. Did you?

Mr. **Semerad**. No.

Representative SCHEUER. OK. But I bet a lot of them did, and we had an extraordinarily successful experience with Headstart. It was the diadem in the ground of the poverty program. But yet what happened in this great country of ours? Did school systems across the country say, "Hey, we could learn something from this Federal experience. The Federal Government funded it and now they're not funding it any more. Why don't we extend the school system down from the first grade to kindergarten to preschool." Did they? Did these local officials prove to us that they know best? Like hell they did. They did nothing. They learned nothing, they forgot nothing. Ed Koch did in New York City. Yes, we have extended the school year down a couple of years. It is to his credit. But very few other mayors and boards of education around the country have done that.

So I think that we can drink a toast to Congress and the executive branch. All wisdom does not reside in local public officials or we would have prekindergartens and day schools proliferating around the country, especially for kids from disadvantaged homes who need it the most.

Mr. SEMERAD. Well, Congressman, I don't know whether Secretary Brock pointed this out but clearly for the last 20 years there has been a decline every year in test scores and everything else and the Secretary is fond of saying, "Nobody got fired." But it's also been in that 20 years that I remember—I got here about the same time that you came to Congress and we had the Elementary and Secondary Education Act, for that same period of time, probably the most massive Federal funding we've ever seen from title I, title II, title III, and so we failed on a lot of counts.

Now granted, the local administrators may not have been as creative and positive as we would have liked, but clearly we didn't have the answer either, and I think that money wasn't the answer.

I think our priorities got screwed up somewhere along the line. We were addressing other issues and we took our eye off the ball.

Representative SCHEUER. But remember, the Federal contribution to local education efforts under title I of the Elementary and Secondary Education Act, the ESEA, which I helped to write, was never more than 6 or 7 percent. We never contributed more than 6 or 7 percent to any local education budget. Locally education has always been underfunded and there were always pushes and pulls and tugs at limited funds.

The parents of the exceptionally gifted kids wanted more money for their programs and I support that. The parents of kids with special education needs, the mentally disturbed, the emotionally disturbed, the mentally retarded, they wanted more funds, and I support that. Parents wanted enrichment classes in music and art, music appreciation, cooking, culinary arts, I support that.

We found out that we weren't willing to put the funds into local education to do everything. A few well-to-do communities did, but most school communities couldn't, and the Federal aid to disadvantaged communities was never of the order of magnitude that really made much of a difference. It made a difference, yes, for the kids from disadvantaged homes. It did make a difference for them, and the experience was tremendously encouraging, particularly as we found out where there was a Followthrough. We created a program called Followthrough to provide successively enriched years in the first, second, and third grades to follow the Headstart experience because we found if we didn't do that the advantage that the kids who went to Headstart seemed to enjoy very quickly eroded and disappeared.

So you can't blame the programs. I think you have to blame our society decisionmakers at the State and local levels, for maybe having said, yes, Headstart is a good program, but not having put their money where their mouth was and having put the resources into those programs.

Mr. **Semerad**. Well, Congressman, we would hope that in light of that that you would support our efforts, the Secretary and I really would like to have, for instance, where we could use some Federal leadership and leverage—support for our efforts to have literacy as a component to all summer youth employment programs so that while we have these disadvantaged kids that they would get some kind of remediation because they're all eligible poor; 85 percent of them live in big cities. We've got them and if they could not only have some work experience and some money in their pocket as well as have something that would sustain them like learning how to read or less of a deterioration over the summer months. We proposed that to Congress and we weren't able to get that through in amendments to the Job Training Partnership Act, but that's precisely the kind of thing because if they feel more confident at that age and they're increasing their reading they are more likely to stay in school, which is certainly something that we're keen on because we end up and we have to focus on—we in the Labor Department—on those people who need assistance.

Now the middle class, the people who have the benefits and are going to get up and go in this country—we've been blessed with a lot of people who are going to get up and go and figure it out and go do it. Unfortunately, we have more and more people I think at risk, and the literacy numbers point to that, and that's very disturbing, very alarming, in my judgment.

Representative **Scheuer**. Well, I totally, totally agree with you and I would support such a literacy program as an important component of summer job training absolutely down the line. And to me, it is inconceivable that Congress wouldn't support something like that. That's not a Democratic or a Republican question.

Mr. **Semerad**. It doesn't cost anymore money here.

Representative **Scheuer**. Making kids effective, viable in school and in the job market is an obvious national challenge that we must meet. It's just hard to understand why we're not doing it.

First, you've got the economic question. How could we compete with countries like Japan, Singapore, Hong Kong, South Korea, now Malaysia, where they've got 99.5 percent literacy and they're not only literate but they work hard, and they're motivated—how can we do that when 18 or 19 or 20 percent of our population are illiterate, unskilled, and unproductive, who are an economic albatross around the neck of our economy?

Mr. **Semerad**. I think, Congressman, that this—and you haven't even mentioned China.

Representative **Scheuer**. I haven't mentioned China.

Mr. **Semerad**. Wait until they figure it out.

Representative **Scheuer**. They've got 99.9 percent literacy. The younger generation now under the age of 30 or 40, the productive members of that society, are 100 percent literate and reasonably well skilled. How do we compete with all these people?

Mr. **Semerad**. Well, I think that we really have to address the big picture. We have some cultural changes. We can't do it by tinkering with programs, in my judgment, with new programs. This Nation has been able to afford wasted human capital and it's not just the large pool of structurally unemployed, disadvantaged people that we keep producing, but it's welfare recipients, it's that dependency, it's the problem of the disabled that a recent Harris poll just shocked me—27 million Americans are disabled, two-thirds of whom want to work, but there are disincentives in our system and it's our fault here in town for those disincentives, and it's not the amount of the disability check; it's the fact that if you're disabled that may be the only check you get—and the qualification problems.

We need to address those issues. Again, these are systemic things that we've built up because we could afford to have people not productive in this society. But what you're hearing in terms of the demographics, this Nation can no longer afford that. We can't afford—and I'm sure nobody sat down and said, "Well, we don't need them," but that's in essence what happened. The numbers are very clear about the next 14 years. We're going to need more disabled people, for instance, working. And the kind of jobs that are becoming available in this new technological age are jobs that disabled people can do, that people can do sitting down in a wheelchair. We have made enormous strides in terms of architectural barriers and discrimination and that sort of thing. Now we've got to say, wait a minute, we've got to make it possible for those people to compete.

Now that doesn't mean they're going to be wonderful. It doesn't mean they won't get fired or laid off. But we've got to give them a chance to be productive. And I think that the structurally unemployed situation—we're talking about the disadvantaged people and it starts very young. It starts at preschool, you can almost guess who's going to be structurally unemployed.

We've got to begin to look at these people as an asset, just like plant and equipment, and how we are going to nurture that asset because we need—emphasis on the word need—the productivity of those individuals. And somebody like ourselves who's worked with disadvantaged programs for many years, we know that it's possible. Just because somebody is poor doesn't mean they can't work—even if they're incarcerated or whatever, it means a good healthy percentage, given the right intervention, can become taxpayers and productive individuals. Not only productive individuals but also they begin to enhance the citizenship and we're also badly lacking in participatory activity in our form of government. And illiteracy, joblessness, all those things that disenfranchise people work against them.

I think we've got to begin to think about the big picture and that's why I am delighted to be here with you today beginning to think far enough out because I believe we still have time to rectify these things. I think we're fortunate that we can fix it because it's clearly broke.

Representative SCHEUER. Well, I couldn't agree with you more. Your testimony indicates at least there's a terrific awareness, a very sensitive and creative awareness, if I might say, at the Secretary and Assistant Secretary level in the Labor Department with you and Secretary Brock. The two of you together are absolutely marvelous.

Mr. SEMERAD. Thank you.

Representative SCHEUER. But you really said it when you said you could almost guess who the structurally unemployed are going to be at the preschool level. That is the horror story that we have learned exists, the link between predictable school failure at the first grade and what happens 13 or 14 years later at age 18. And that makes me ask you the question and it's an awesome question, that 80 percent of our society that is immigrant and predominantly illegal immigrant—by far the greatest proportion of our immigrant population is illegal and unskilled and illiterate—of that 80 percent—well, let's leave out women because women run the whole gamut—but of the part of the 80 percent that is immigrant and is minority, are they in effect structurally unemployed before they even hit the labor market? Could we realistically tag that symbol on them and could we realistically say that, absent major intervention with the kind of programs that you have outlined—major literacy programs, adult literacy programs, major preschool education programs, enriched educational programs, major child care programs, major self-esteem programs to combat all kinds of self-abuse, whether it's drug abuse, alcohol abuse, tobacco abuse, sex abuse, you name it—it's all the lack of self-esteem and we shouldn't call a program a drug abuse program or sex education program or alcohol abuse program. We ought to call them self-esteem education because when these young people learn to respect themselves they won't abuse themselves with drugs, alcohol, and sex, et cetera.

Absent these programs—the preschool programs, the literacy programs—aren't we in effect just laying down and accepting the fact that a major proportion of this 80 percent of the labor market, the major portion of the labor market that is immigrant originated and is minority, are structurally unemployed? We can virtually write them off and hang that economic and I might say social and political albatross around the neck of our country.

And let me just put a footnote in here and I know it's not relevant. This is the Joint Economic Committee. It isn't the Joint Politics or the Joint Sociology Committee. But above and beyond the economic burden of having a deprived, unskilled, unemployed, and virtually unemployable underclass, I think it's not hysteria for me to say that this threatens the social contract in this country. This threatens our unity. This threatens our concept of a one people, a one United States of America.

If we're going to develop into a country where the skills more or less affluent predominantly middle class 80 percent of the population and an unskilled, underpaid, welfare oriented, hopeless, alienated, resentful subgroup in our society, that really has no hope of employment—if as you say the future jobs, three-quarters of them or more, are going to require not only a high school education but postsecondary education—aren't we developing into a society that is enfeebled and at odds with itself against every basic concept of the Judaic-Christian ethic in this country that we're equal and free Americans, each of us pursuing life, liberty, and the pursuit of happiness?

Mr. **Semerad**. Congressman, you have touched on many things. I share your concern, by the way. As you go to a teen pregnancy program, a dropout program, an ex-offender program, the one common denominator for all those programs is that loss of hope and self-esteem that you have pointed out. These young people don't believe that America has a place for them, that they're ever going to get into the game. And we are indeed and historically have been a Nation of workers. How you get all the goodies in this society is by working. I believe that's been the idea. And I think that young people, especially disadvantaged young people, really are just illustrating a lack of hope by the drugs, the alcohol, and everything else. It's just they've given up. They don't think they're going to make it. They're going for instant gratification because they don't see any long-term benefit.

Representative **Scheuer**. And the fact is they're not going to make it if they can't acquire literacy skills and job skills. What you're saying is there isn't going to be a place for them. They have a right to be despondent.

Mr. **Semerad**. But we know that in places around this country, whether it is public or private programs, there are very effective salvage programs. It's interesting in Massachusetts now when you've got a 3 percent unemployment rate there are all these social interventions, all the Government programs are reaching farther into the cube so that they're getting more of the structurally unemployed or hopelessly unemployed people, and through child care and in many cases child care and some kind of training, some kind of remediation, getting the graduate equivalency degree or GED, they are salvaging—if you'll pardon that term—these individuals and getting them into what is a healthy economy.

Now clearly where you have the strong demand so that the private sector is hiring people and you do reach deeper, everything works better in terms of the things we're concerned about. It's awfully hard when you're running a 40 percent unemployment rate someplace else or worse, it's hard and it doesn't matter what we do because there are no jobs at the end.

You mentioned in your question to Commissioner Norwood the question of enterprise zones versus mobilization of people.

Representative **Scheuer**. In other words, do you get the jobs to the people in the central core?

Mr. **Semerad**. Yes. I've really been working and thinking about that a lot and done a little research and I've found that some of the big companies that could afford to move into the innercity and perhaps even in your district could set up plants to bring the jobs into the city. They're still there but that isn't because by the normal measures of decisionmaking in corporations that they should stay there. They are staying there for other reasons. Those plants have not been particularly cost beneficial or productive.

So that leads me to believe then that we've got to accept the idea that people are going to have to go where the jobs are and we have it right here in the District of Columbia as you know. There are lots of jobs in the suburbs going begging and we're finding extreme difficulty moving the people from the city out to the suburbs and back to take these jobs.

We also found years ago that—I was always astounded, I don't remember the exact figure—how many people who lived perhaps in your district in some of these communities have never traveled more than five blocks from where they were born. I mean, you have cultural phenomena that we've got to begin to address and I think that one of the things that this Nation needs to do is talk about the elimination of illiteracy by the turn of the century because nothing works if they're illiterate.

The jobs that are becoming available are no longer jobs that you can learn to do if you can't read. So I think that's something where Federal leadership can spur on I hope, but I think that's the key to the jobs, that's the key to the survival in this society, and we've got to just say that's number one priority because really all the other priorities kind of fall into secondary roles to the fact that it doesn't matter how much you spend to remediate or help the human misery index, whatever it is, if the people can't read they really don't have a chance.

Representative SCHEUER. Does this administration, does your Department of Labor have plans to come to the Congress with a first class adult literacy program?

Mr. SEMERAD. The administration's Department of Education has an adult literacy program that they're working on and trying to implement with their resources. I don't know the details of it.

We have placed at the Department of Labor illiteracy as one of the major problems. It's not something that any one part of government owns frankly or any part of the society. We all elect the school boards and we all watch things go down the drain in terms of literacy.

I think the Department of Labor and the Department of Education and the Department of Health and Human Services are addressing a number of these kinds of problems with the hope that this could become the hallmark of the administration, that the administration as a major priority would say we've got to resolve this because if we could do that then we begin to address some of the problems that you've talked about in terms of teen pregnancy and staying in school, being capable to work. And that isn't a trend that is not going to reverse.

Representative SCHEUER. I agree with you that it's all of our responsibility, every department of government would logically have a slice of the responsibility. Your Department it seems to me has a major slice of the opportunity and challenge of education, job skills, and literacy skills at the workplace. There are a lot of young people who for reasons beyond the point of discussion right now that for some reason or other the schools and the kids haven't really ever connected. The kids have failed the schools and the schools have failed the kids and they've either dropped out or they have finished 12 years of elementary and secondary school and they are not literate.

Mr. SEMERAD. They can't read their diploma.

Representative SCHEUER. They can't read their diploma and they can't read a job instruction sheet and can't read a menu in a diner, and can't read traffic signs. It's awful. Their lives are stunted.

What about the concept of giving them what they have missed in school at the workplace for an hour or two a day and actually promoting them or increasing their pay or giving them some kind of recognition as they become literate and numerate. Maybe a different kind of work and study environment, a different kind of incentive would be best for some of these kids, the whole idea of declining literacy skills, learning to read and write and count at the workplace. Might that be a job for Federal assistance to corporations in order to do that for 2 or 3 hours a day as part of the job, as part of teaching a kid how to fit into the world of work, how to get up in the morning and put on a clean shirt and take off his porkpie hat and comb his hair and come to work and behave like a normal member of the work force and get 2 or 3 or 4 hours of study a day in a work-study program? Is that an approach that we might try for some of the kids that have had a painful experience in school and have just been turned off by school, whether it's right or wrong, what difference does it make—can we offer them something different in the workplace that might turn them on?

Mr. SEMERAD. Well, I think that there have been a number of experiments in this area and there is—the estimates are all over the map, but somewhere around $40 billion a year is spent by private business in training. I'm trying to pin down now what the terms of illiteracy would be at the low end of the scale, how much they're having to spend, and at least 1 percent of that $40 billion. It could be quite a bit more.

We feel that clearly, again, we don't want to intervene with private business and they like to do their training. They are good trainers. They need the good raw material to train. We have a number of programs where through on-the-job training people may be doing education type things. Certainly all of our programs that are run by national contractors urge completion of the GED so that they have that floor.

Representative SCHEUER. The GED?

Mr. SEMERAD. Graduate equivalency degree, a diploma. The high school equivalency diploma. We spend about 30 percent, for instance, of our instructional budget in the Job Corps for remediation where we're trying to teach skills as well as the learning and the work survival skills, if you will. There's a lot of commitment here.

I think, again, a national program to provide money to employers to teach reading or writing or whatever—I'm not sure I would endorse that. However, we shouldn't do anything that would prohibit companies.

Now if there are ways to look at human capital as investment the same way you look at plant and equipment so that there is a tax consideration given to the human part of the business, then certainly we would like to have this more encouraging, if you will, more stimulative, and we've been looking at those kinds of things and we're vitally concerned.

But I'm trying to avoid advocating some kind of thing that's a Band-Aid. As we've talked this morning, we've got major cultural differences that aren't going to be corrected by some gee-whiz new program. We need a whole series of things that fit together. There's an awful lot of resources available in this country for these kinds of things.

Representative SCHEUER. You're got all of these resources and you don't want a new program. We've been at this stand for several decades. Doesn't that require the Federal Government to take a look from the mountain top and to come up with a well thought out, comprehensive program of adult education involving the Department of Education certainly, the Department of Labor certainly, and perhaps a number of other departments—the Department of Health and Human Services, the Department of Defense. They obviously have inputs.

I see 23 million adults suffering from illiteracy and I don't know how many million adults in the old group over 65 who have finished their full-time working careers who are literate, who are skilled, who are experienced, who have life experience, who have work experience, job experience, hands-on world experience in the plant, in the marketplace. I see college kids who are literate who have some skills, who are at least full of beans, who would like to make some pin money, maybe high school seniors. Isn't there some way that a Federal program could involve this old group in our society and some of those are only 65 years old—I'm one of them, I'm 66—they don't feel all that old. They would like to keep on. They certainly want to keep involved. A lot of them could use a few extra bucks for part-time work.

Couldn't they and the college kids on a part-time basis, college juniors and seniors perhaps on a part-time basis, be involved in some kind of adult illiteracy program? Can't we harness their talents at comparatively modest costs, certainly less than full-tme teachers being paid $20,000 or $25,000 a year? Couldn't these seniors be involved and the kids be involved on some kind of a "each-one-teach-one" program and doesn't that kind of approach really require Federal leadership across this country from Maine to California to Florida to Vermont? Isn't this a Federal role?

Mr. SEMERAD. Well, Congressman, I think a couple of things you really are addressing when you talk about the older workers are something that I'm concerned about. There's a natural symmetry. We've got problems of older retired or semiretired people and we've got problems with the new human beings in our society. It seems to me that we need to think about the symmetry there and what we can do to meet the needs of both those populations.

Representative SCHEUER. But isn't there a natural interface?

Mr. SEMERAD. Well, one would think so and certainly in family units and in other societies there's a very direct cultural significance between the beginning and closer to the end, and I think that that symmetry—we found, for instance, in Job Corps involving retired workers with really hardcore kids in our Job Corps centers, that the older people like it because they like the interaction which keeps them young, and the young people respond very well to the old people as role models, as instructors, as trainers, this sort of thing. So, yes, we're working on that and, again, we're trying to break down anything that precludes that kind of involvement, but we're a long way from it in all these programs.

You talk about coordination of Federal agencies. I don't know whether the Secretary touched on it, but the President really instructed Secretary Brock and Secretary Bowen and Secretary Bennett to really begin now to aggressively see where we overlap, where we've got the same constituency, to stop the duplication. We have already instituted a number of programs with HHS where we're actually not only reviewing proposals together but we're joint venturing. We're doing ourselves what we've been encouraging other people at State levels to do—public-private ventures if you will—so we get more focused resources, especially in these days of Gramm-Rudman-Hollings, more focused resources to try some things.

We're trying to bring in the Department of Defense. We haven't even talked about the national security implications of all of this which are profound. The former Chief of Naval Operations, his statistics about Navy recruits is amazing—the percentage that can't read a "Danger Jet Blast" sign is astounding and what they've had to do. He has some very strong ideas he's shared with us about the needs of young people just coming into the military, what the demographics show there.

Now again, do we use those kind of things to our advantage? My guess is, yes, but we need better coordination. We've got to stop turf issues. These are everybody's problems and while leadership in the literacy area, I think, can come from the top. You're probably aware of the ABC television instituted program called PLUS. It stands for Project Literacy United States. Starting this fall they will kick off a series emphasizing the problem of literacy in America. It will be built into the scripts of sitcoms and soaps and everything else to address this large number of people to try to find ways that we can make them aware and then, in cooperation with the Public Broadcasting System that have outlets in 250 communities or whatever it is now around the United States—the "how-to." PBS will say here's this church or this group that is working in literacy on the one-to-one that you're talking about and here's where to go.

Now there are some problems. Older people are embarrassed by the fact that they're illiterate and going back to school, but maybe libraries, maybe churches can begin to provide these programs. The Labor Department is involved very heavily with promoting project PLUS in this country and with PBS the Secretary and I have been very much involved with them. We encourage it. I think that the business community has already begun to address this through some of the primary organizations like the National Alliance of Business and everything. They are involved now to figure out how they can contribute.

This is not a massive Government program but it's leadership and television is part of the problem of people not being able to read because they have been able to get their information otherwise. So we're doing that.

Our regional offices—I've got 10 regional offices—in 2 of them now the staff there have gotten involved with people in their communities to begin to do—Labor Department people—do one-to-one, become tutors, if you will, in their communities and we're going to try to do it here in Washington. We've got 18,000 employees. Even if you can get 10 percent of them to contribute their own time to helping somebody learn to read—we've got to pick up momentum and we need your leadership in that.

Representative SCHEUER. Well, Mr. Secretary, you have given us some very stimulating, thoughtful, creative and even inspiring testimony. I thank you very much for it. I just hope that out of all these wonderful dreams and hopes will come some tangible specific programs that you will be able to send over to the Congress.

Mr. SEMERAD. We will be working with you, sir.

Representative SCHEUER. Thank you very, very much.

We are going to take a 1-minute recess. We will then have a panel of our witnesses who will discuss some of the specific long-term changes our country will face as our population changes. Mr. Mark Tucker of the Carnegie Forum on Education and the Economy; Mr. Nathan Quinones, chancellor of the New York City Board of Education, a valued neighbor of mine; Mr. William Kolberg, president of the National Alliance of Business; and Mr. George Sternlieb, director of the Center for Urban Policy Research at Rutgers University, a very distinguished expert in the field of housing.

We will now take a 1-minute break.

[A brief recess was taken.]

Representative SCHEUER. We will resume. I have the swearing in of Congressman-elect Al Walton who was elected to fill Joe Addabbo's seat. He's going to be sworn in at noon and I must be over for that so I will leave here about 6 or 7 minutes to 12. If we've finished by that time, then we'll wind up the hearing. If there are some things that any of you want urgently to say I would be happy to come back. OK? We'll see how it goes.

I appreciate all of you coming. I would hope that all of you would just speak informally, chat with me, giving us the summary of your statement and don't hesitate to advert to anything that any of your colleagues at the witness table have said or you think will say if you've had a chance in advance to read the statement, or anything that you've heard this morning. We'll keep it nice and informal.

We will start with Mr. Tucker. Let's say each of you take about 8 minutes and then we'll have some questions.

STATEMENT OF MARC S. TUCKER, EXECUTIVE DIRECTOR, CARNEGIE FORUM ON EDUCATION AND THE ECONOMY

Mr. TUCKER. Thank you, Congressman. The Carnegie Forum on Education and the Economy is a program of the Carnegie Corp. of New York, which resides in a borough very close to your own in New York City.

Because the Forum has a special interest in the relationship between the Nation's economic prospects and education policy, we have paid particular attention to the demography of our population. Demography defines the context of policy.

In fact, demography, when combined with a few other salient facts about our economic and educational future, spells a coming crisis in American education and the American economy, unless radical changes are made in public policy.

In recent years, as the baby boom moved out of our schools and into our colleges, schools were closed and teachers were released from service. Few teachers were hired, and the average age of teachers increased. Youngsters choosing careers noticed that few jobs were available in teaching and elected to train for other careers.

Now, the children of the baby-boom generation are having their own children and we are experiencing the second greatest wave of immigration in our history. School enrollments are swelling. In 1982 the country hired 115,000 new teachers. In 1992, though, according to conservative estimates, they will need about 215,000 new teachers. That means a very steep increase in the demand for teachers.

Almost all of the expected increase in the student body will be made up of students who come from families who are poor and minority. Current birthrates for whites and Cubans are 1.7 and 1.3 respectively, but are 2.4 for blacks and 2.9 for hispanics. There is also a continuing flow of people into the country escaping economic and political problems south of our border.

Almost half of our poor are children. A child under 6 today is six times as likely to be poor as a person over 65. Poor children are likely to suffer from various forms of malnourishment and, therefore, to suffer from learning disabilities than average children. Because a very high proportion of the increase in the student population comes from immigrant families, the proportion of non-English-speaking students in the student body is rising fast.

By the year 2000, one of three students in the United States will be nonwhite. Many more will be poor than are now. An increasing proportion of the poor will be the children of children and will come from single parent families.

But the baby boomlet is going to crest within about 10 years. Shortly thereafter, the children of the real baby boom, the one that swelled the current workforce, the rabbit that went through your snake, will be retiring, thereby greatly increasing the proportion of the population out of the workforce and dependent on those who are in the workforce for their continued support. In 1985, 12 percent of the population was over 65. That proportion will increase slightly to 13.1 percent when the current baby boomlet has crested in 1995, but by the year 2030, when those who will be in school over the next 10 years are actually the core of the workforce, the proportion of the population over 65 will have almost doubled to 21.2 percent.

Now let's step back for a minute and see where we are. In 1950, there were 17 people in the workforce contributing to each person's social security pension. In 1992, there will be only three members of the workforce to contribute to each retiree's pension. If current trends continue, it is possible that one of those will be on some form of public assistance, unable to contribute productively to the support of a growing number of young and old people who cannot support themselves

Here I come to the heart of my argument. It is worth examining the economic conditions under which the members of our workforce are going to be supporting the rest of us at the turn of the century.

Right now, today, there is a factory outside Seoul, Korea, where home video recorders are made for sale in the United States under many brand names. The people in that factory work 363 days a year. They work 12 hours a day. They make $3,000 a year. Compared to many people they compete with, they are doing rather well.

There are millions of Americans doing routine work in factories, assembly plants, and service establishments who are competing with people like those in that plant beyond our borders who are willing to work nearly twice as many hours a year as our workers and for one-tenth of our wages. They compete in the same integrated world market that we do. If we end up competing with them on their own terms, as we are today, it is inevitable that our standard of living will decline until it matches theirs. Put another way, employers of low-skilled labor in this country will be able to compete with employers engaging foreign labor only if they automate low skill jobs or export them.

The implications, in my opinion, are stunning. Our schools are struggling to produce significant numbers of students who graduate with the basic skills—with the basic skills. Yet we are competing with low-cost labor countries whose labor forces have the basic skills. The only way we can avoid massive unemployment or a steady decline in our standard of living is to greatly raise the educational attainments of our labor force.

We will be able to charge 10 times as much for our labor on world markets as our competitors do only if we have a superbly educated labor force backed up by the most advanced machinery available. Only very high rates of productivity increase, in other words, will enable us to meet our economic needs.

If we succeed in meeting our needs, most high school graduates 10 years from now who have the basic skills, but only the basic skills, will be, I believe, unemployable. It will cost more to employ them than employers will be able to afford.

Now we can see where demography and economics meet. Just as the changing structure of the world economy makes it imperative that we greatly raise our educational standards, we face a steady increase in the proportion of our student body made up of the most difficult to educate students, a greatly increased demand for teachers, and a widening shortfall in teacher supply.

The historic response of the American education system to a shortage of teachers is to reduce the standards new teachers are required to meet until enough teachers are available at prevailing wages. If that policy prevails in the current situation, America's economic prospects are dismal.

For decades, college educated women and minorities had few careers available to them apart from teaching. That is no longer true. There are more women than men, for instance, now enrolling as freshmen in our business schools. If entry standards are now lowered to meet the current teacher shortage, we will fill our schools with barely literate teachers at the very time when we are filling the schools with poor and minority children who must be vastly better educated than ever before in order to be employed.

If that happens, the growing population of old people in our society can confidently look forward to closing years filled with poverty and social unrest, because a very large fraction of a work force which is itself a declining proportion of the population as a whole will be unable to support themselves, to say nothing of others.

Though the populations of the advanced industrial nations everywhere are aging, not all face the policy problems that we do. The performance of American children on international assessments of academic ability is steadily falling behind that of the children of our competitors, in virtually all areas, but particularly in the vital areas of mathematics and science. Few of our principal economic competitors have populations as heterogeneous as ours. We must work harder than they to stay even, but, as it is, we are falling behind and the worst is ahead.

Only a fundamental restructuring of our educational institutions can meet the need I have described. Our educational institutions, like our economic institutions, have simply got to develop structures that permit major productivity improvements. It will be harder in the public sector than in the private sector to produce such productivity improvements, simply because the driving force of competition is absent in the public sector. Yet, as I have pointed out, our economic success is absolutely dependent on great improvements in the performance and productivity of our schools.

The interaction, then, between demography, the economy and education policy may well spell the difference between success and failure for this country in the years ahead. It is not too late to take our future in our hands. But I believe that it will be very soon. Thank you.

Representative SCHEUER. Very terrific. Mr. Quinones.

STATEMENT OF NATHAN QUINONES, CHANCELLOR, NEW YORK CITY BOARD OF EDUCATION

Mr. QUINONES. Thank you very much, Congressman, for allowing me to address you. First, one brief correction. Unfortunately, I don't have a doctorate—all but.

Let me start off my comments by saying and saying very strongly that local education is in the national interest, not just as that may accrue to the community within which that education takes place.

Beyond that is, I want to point out and stress, a new segregation that we have in this country and that's the segregation by age, with a younger population increasingly poor and minority separated from an adult population relatively wealthier and white.

And, Congressman, you made some comments earlier about your upbringing. Regardless of the socioeconomic condition of many of our citizens, the traditional family some years ago was composed of a working father or at least a father who was attempting to work, a mother primarily in the household, and grandparents and sometimes a spinster aunt or a roving uncle. At least there were other adults in that household to provide some emotional support for the children regardless of whether those families were white, black, or anything else. That is virtually disappearing from the American scene and what we do have is children growing up in increased isolation within the society.

Let me stress what this incoming class of young people will look like this coming September. In September, we will have 3.6 million children who will begin their schooling in the United States. One out of four will be poor. This isn't just for New York City. Nationally, one out of four children will be poor. That is a startling statistic by itself.

What is particularly distressing is that children are now the impoverished group within the United States and that that group appears to be expanding. For example, 14 percent of all children starting school will be children to teenage mothers and if the present rate remains constant, one out of four girls currently 14 years of age today will be pregnant at least once before her 18th birthday. And 15 percent will be physically or emotionally handicapped and we can't separate the second statistic from the third.

We have heard that in many instances teenage mothers have little or no prenatal care, have a disproportionately higher rate of children who are born prematurely, not well-nourished, and, of course, the learning problems that are then incurred.

Fifteen percent of the children starting school will be immigrants who speak a language other than English and we should cite here that the fastest growing proportion within these categories are hispanics and Asiatics.

Ten percent will have poorly educated, even illiterate parents. Between one-fourth and one-third will be latchkey children, children who arrive to empty homes after school, with little opportunity for assistance with homework, and close to one-half will have lived in a single-parent family by the time that they reach the age of 18.

These are demographics that are not just borne by us but certainly have been cited by Mr. Moynihan, by Mr. Hotchkinson and people who are experts in the field, and what we have to do in the area of education is not just continue with instructional patterns as we have in the past, but we've got to use these demographics in terms of changing strategies within our schools.

I would suggest five specific interventions. Obviously, there are many more than those, but let me at least limit myself to five, some of which you have already heard.

Universal, prekindergarten programs for all 4-year-olds initially. I would then go on to 3-year-olds. Essentially, Congressman, you pointed out that there currently is a high correlation between prekindergarten programs and economic strength of the family. At least in New York, I believe that that correlation is 70 percent of families who can afford prekindergarten programs do so and there is enough research going back to 20 years and more to show the validity of that kind of investment.

Second, providing comprehensive support services of all children, including family outreach, counseling, and health services, and within health services I would certainly include mandated sex education.

We now have cycles of teenage mothers living with mothers who themselves were teenage mothers and with grandmothers who had gone through the same. It would be interesting to see in those families what's the average age of grandparents. We would see that that is dramatically lower than what normally we would have thought of the age of grandparents.

Third, providing male mentors for our early childhood and adolescent male populations. We have a crisis with young men within our society who feel that their only sense of self-esteem is by making babies. They have few male role models in their entire existence except some of the individuals, the hustlers out on the streets. We've got to change that and we see the serial relationships that many of these young men go through in terms of producing children without any sense of obligation, at least subsequently for them. And what this means is that you automatically have a disrupted broken family and, again, a perpetuation of a cycle of dropouts and of further alienation.

Beyond that, securing part-time jobs for our youngsters, and here I would say not even high school youngsters but middle school youngsters as well. In many instances, they have few models who are regularly employed. Im most instances, they are fortunate if they have models who are subemployed.

And lastly, expanding adult education to combat illiteracy.

I cited initially that this is in the national interest. It's in the national interest in terms of our being able to strengthen the social stability of this country. We have large numbers of young people disaffected and roaming our streets. They are a plague on our society, almost taking or attempting to wreak some kind of vengeance on the disaffection that they feel by the separation from the rest of society.

We also see the erosion of the social stability of this country by undoing of traditional family life. We have to strengthen our status economically not only within the community but obviously within this country.

Last, let me say that perhaps what might really propel us to some action is that our strength in terms of defense will also be adversely affected because these are the young people upon whom this country is going to depend.

Lastly, may I just make a side comment regarding the immigrant population. Within my observation—and I am far from an expert in this field—immigrants in a number of instances are providing values in the communities that had gone by the wayside.

In the county in which we reside, the Koreans, the Asiatics, many of the families coming in legally or illegally, provide a family strength which was reflective of family life in this country around the turn of the century with cultural values of church and of a work ethic. In many instances, the jobs that they take are the jobs that no one else will take.

But I see certainly within these families problems for American society, but certainly a contribution as well. Thank you very much.

[The prepared statement of Mr. Quinones follows:]

Prepared Statement of Nathan Quinones

THE IMPLICATIONS OF DEMOGRAPHIC TRENDS FOR THE FUTURE OF PUBLIC EDUCATION

Thank you for inviting me to speak to you today. The topic of today's hearings--the implications of demographic trends for the future of public education--is a theme I have stressed for some time. Without proper consideration of these trends and careful planning we are vulnerable socially, economically, and in terms of national defense.

It is imperative that we anticipate the educational needs of the future. The national concerns about the number of students who drop out of school and about the critical shortage of teachers threaten to swamp us. In addition to coping with our present crises, we must plan long range based upon demographic trends that have already been identified. If we had done so a few years ago, for example, we might not currently be experiencing the shortage of well prepared teachers. In fact, I believe that neither the dropout rate nor the teacher shortage will be resolved without carefully planned strategies based upon the present and future needs of our public school population.

In New York City and in other large cities, two recent, general demographic trends have--and will continue to have--profound effects upon our public school system. The first of these is that, after several years of decline, the school-age population is growing. The birthrate is on the rise, and experts predict that it will continue to increase into the 1990s. Immigration, both legal and illegal, has also increased the number of school-age children. We will see a new segregation by age; with the younger population increasingly poor and minority and the adult population wealthier and white.

Let me share some statistics to better acquaint you with the kind of children who come to our schools.

First, these children are increasingly poor. Throughout our nation, children now represent the largest age group living in poverty. Since 1965, the poverty rate for children has more than doubled to its present rate of about 25%. Meanwhile, children's benefits under Aid for Dependent Children have been cut by one third. If you are under 6 years of age in this country, you are six times more likely to be poor than if you're over 65. Senator Moynihan has estimated that one half of the babies born in New York City in 1980 will be on the welfare rolls before they reach the age of 18.

This is not just New York City's problem. Nor is it a problem confined to the children of single Black and Hispanic mothers, as many might think. The most dramatic rise in the poverty rate between 1979 and 1983 was the 63% increase in poverty among white children in two-parent families.

It is also true that school-age children throughout the nation are increasingly minority. Statewide, in New York, 32% of the children in public schools are minority; in Texas this percentage is 46% and in California it is 43%. Nationwide, about 26% of our public school population is minority. By 1990, this is expected to increase to more than 30%, while minorities of all ages will constitute 20 to 25% of our total population.

In New York City, more than three-quarters of our public school population belong to "minority" groups. This means that minorities are increasingly isolated in schools, a situation shared by other urban school systems. Between 1970 and 1982, for example, white student enrollments throughout the nation decreased by 18%, while minority enrollments increased by 12.7%. In contrast, urban school systems experienced a 51.4% drop in white enrollments and only one tenth of one percent decrease in minority enrollments. Minority students are the majority in 23 of our 25 largest cities.

Hispanic population growth has been and continues to be the highest of all minority groups. Coupled with the increase in immigrants in our cities, this means that, for a growing number of students, English is not the language spoken at home.

These are the children who will make up a major portion of our future work force. More and more of these urban children, however, find themselves living in crisis.

Consider the statistics on child neglect and abuse. In New York City, the number of cases reported has been growing at the rate of 10% a year. The Special Services Agency projects that it will have to investigate reports involving 69,000 children next year. Last year, 12,000 children had been abused or neglected so severely that they had to be removed from their homes. In addition, like all big cities, we see escalating numbers of runaways and tragic suicides.

These statistics tell us that poverty is accompanied by family crisis.

Let me step back for a moment and talk about American families. Our notion of a "traditional" family has not changed much in the past thirty years. A "traditional" family is one in which the father works and the mother stays home to raise two or more children. In 1955, 60% of the households in our country fit that picture. By 1980, however, that had dropped to 11%, and today it is only 4%. The dramatic rise in single-parent families and in working mothers has changed the way the American family looks.

For children, this often means a lack of supervision after school; thus, the growth of concern about the so-called "latch-key" population.

In big cities, these trends are concentrated. For example, in New York City, our total foster care population is now approximately 17,000. In addition, 10,000 children live in shelters and hotels for the homeless. Increasingly, many of our children--at least 100,000 a year--move from school to school during the year, disrupting the continuity of their education. An additional 50,000 children enter our school system at non-standard times every year, coming from other systems in the middle of the year.

Teenage pregnancy also continues to be a major concern. If the present rate remains constant, one out of four girls who is 14 years old today will be pregnant at least once before her 18th birthday; one out of eight will have had at least one abortion. Once again, this problem is not confined to New York City. We rank about 26th out of the 30 largest cities in the number of teenage births.

Let me summarize these statistics for you, using the picture painted by Harold Hodgkinson of the American Council on Education in a recent article. This fall, more than 3.6 million American children will begin their formal schooling.

- 1 out of 4 will be classified as "poor";
- 14% will be the children of teenage mothers;
- 15% will be physically or emotionally handicapped;
- 15% will be immigrants who speak a language other than English;
- 10% will have poorly educated, even illiterate parents;
- and between one fourth and one third will be latch-key children.

Clearly, our schools must be ready to cope with these children. They are on our doorstep already. We must, for example, be prepared to offer bilingual and English language instruction for hundreds of thousands of children. We must be prepared to offer appropriate special educational services. We must be prepared to offer meals, and supervised after-school activities, and adult literacy instruction so that parents can participate in their children's education more fully.

What I am saying is that schools must be prepared to play a new and expanded role in the lives of children. I don't mean schools in the year 2000; I mean now. The needs and difficulties children are bringing to school with them must be addressed, for they interfere with the educational process. The absence, for example, that frequently--and understandably--accompanies the crisis of homelessness must be dealt with, or children can get so far behind in school that they never catch up. And, of course, the psychological crisis of losing one's home requires careful, ongoing attention.

In New York City, our schools are beginning--and I stress beginning--to look different as they attempt to respond to the needs of our children. More and more community groups, for example, have become our partners in providing counseling and other services to students and their families. All of our schools are open until six p.m., and more and more are staying open until ten or eleven at night. Some schools serve three meals a day. Special teams of attendance workers have been established for homeless children. We've expanded the number of day care centers for teenage parents in our high schools. We've upgraded the quality of early childhood education, while simultaneously decreasing class size in the early grades, in order to better identify and address children's problems early, before the point of crisis.

All of this, and more, is only a beginning. There are five specific interventions which I feel are of utmost importance to address the needs which arise from these demographic trends:

- Having Pre-Kindergarten programs for all four-year-olds.
- Providing comprehensive support services for all children, including family outreach, counseling, and health services. Included here is mandated sex education for all students.
- Providing role model "mentors" for our early childhood and adolescent populations.
- Securing part-time jobs for our high school students and preparatory career skills education for younger children.
- Expanding adult education to combat illiteracy and improve the lives of present citizens.

The current emphasis on higher standards in education is something I believe in--but only if they apply to all children. Schools must be held accountable for the performance of their students. In New York City, for example, I have just established universal minimum standards for our public schools for the first time in recent history. But such standards make sense only if we do not ignore the needs of the growing numbers of poor, minority children and children in crisis who populate our schools.

Meeting these needs costs money--a great deal of money. But it is an essential investment.

Representative SCHEUER. Well, thank you very, very much, Chancellor, for your marvelous testimony. Now we go to Mr. Kolberg.

STATEMENT OF WILLIAM H. KOLBERG, PRESIDENT, NATIONAL ALLIANCE OF BUSINESS

Mr. KOLBERG. Congressman, first off, let me congratulate you for this set of hearings. I think this is the first time Congress has focused on this set of issues in the broad way that you are doing it this morning and I think that is a real contribution.

I understand, Congressman, that you are willing to have us show a video tape that we have made in substitution for our statement.

Representative SCHEUER. No, not in substitution. I'd like you to speak informally briefly if you can. I'm going to have to leave here about 6 or 7 minutes to 12 to be at the swearing in of my new colleagues from Queens. I have seen this tape and it's terrific and the Assistant Secretary of Labor was on it whom we just heard and Secretary Brock. They are both marvelous. You are marvelous. So I have seen it and it's really a wonderful film and I suggest when I walk out the door we turn that on. And I will be back in about that 17 minutes and then we will continue with some questions. So if you would like to have that as a substitute for your remarks, fine.

Mr. KOLBERG. Let me just make some brief remarks. I appreciate your willingness to let us show the tape. I think it makes our case of concern over this set of issues far better than I can by making a few comments.

Our organization, the National Alliance of Business, began to look at this set of issues 6 or 8 months ago. We came out with a study, "Employment Policies: Looking to the Year 2000." Our board of directors, made up of the CEO's of some of the largest corporations in the United States, have debated this set of issues at great length. This represents our view of what the problems are.

I agree with what Assistant Secretary Semerad said, as well as you Congressman Scheuer, and my colleagues. We have a whole set of interconnecting, cultural, and economic issues. I think the thing that concerns us the most is the fact that unless we change the way we educate our children, unless we relate that to the need for a higher level of training, as my colleague on the left has said, this society will not be able to compete in the world.

Productivity growth in the United States is on a downward trend. The amount of money that we need to spend on human resources from the very earliest grade all the way through school needs to be expanded because it is now becoming clear that if we want to keep a high standard of living, as we do, we are certainly going to have to build the human resources capability of our society so that the goods and services that it provides remain competitive.

I could repeat many of the sets of data that you have heard and you will continue to hear. It seems to me it points in only one direction, that it is time for us to concentrate on this interconnected set of issues. That's what we've tried to do with this video tape.

We hope that everyone else tries to get the message across to the country. This is not a problem that the Federal Government can solve by passing a law or two. This is a problem that goes from the top levels all the way to the bottom levels in our society, every level of government. It affects every single company that does business in this society. We all need to understand this set of issues and then begin to take whatever steps we can to cope with it.

That, Congressman, along with the video tape later will constitute our statement.

[The prepared statement of Mr. Kolberg follows:]

PREPARED STATEMENT OF WILLIAM H. KOLBERG

THE LONG-TERM CONSEQUENCES OF THE AGING OF THE AMERICAN POPULATION

Mr. Chairman, thank you for the opportunity to appear before this Subcommittee to express the views of the National Alliance of Business (NAB) on the labor force consequences of the aging of the American population.

My name is William H. Kolberg. I am President and Chief Executive Officer of the National Alliance of Business. The Alliance is an independent, business-led, nonprofit organization with over seventeen years of experience helping poor, unemployed youth and adults obtain productive jobs in business and industry.

For the past several years, the Alliance has been working hard under the Job Training Partnership Act to put together local partnerships of business, government, labor, and community action groups to create training and job opportunities at the local level.

More recently, we have taken a step back to look at what job training means for the nation as a whole. Based on our study, *Employment Policies: Looking to the Year 2000*, we anticipate profound changes in both the workforce and the workplace over the next 15 years that could adversely affect the nation's economic performance if not properly addressed.

In today's competitive international trade environment, our nation must continue to develop its human resources to take full advantage of its technological advances. I plan to take stock of those human resources in just a moment, but first let me describe the jobs these workers must be prepared to fill.

THE CHANGING WORKPLACE

Technological innovation, foreign competition, and shifts in consumer preferences are transforming the workplace. Jobs are being created, changed, and destroyed by the millions. There is no doubt that the jobs of the future will not be the jobs of the past, or even the present. The shift away from manufacturing and toward the service and information industries has been so pronounced that in the last 15 years, only 5 percent of the new jobs created were in manufacturing, while 90 percent were in service and information.

The pace of technological change is not likely to slow during the next decade. Not only will new jobs be created, requiring skills that do not even exist at present, but millions of traditional jobs will be restructured. This does not mean that we will all be sitting at computers, though many of us are already, and more will be. It does mean that few of us will be able to get along without adding to the skills we already have. And the pressures on those coming into the workforce will be even greater. According to a recent estimate, in the near future three out of four jobs will require education or training beyond the high school level.

Computer skills will comprise only a small part of total skill requirements, but basic academic skills, problem solving, and interpersonal skills will be increasingly important. There will also be fewer natural career ladders. The new technology makes it increasingly feasible to separate "back office" functions (clerical, service workers) from the "front office" (technical, sales, professional, and management). It will thus become more difficult to work up the ranks through informal on-the-job training. More formalized training may be necessary. At the same time, jobs that rely on computer-based information will offer greater mobility for workers across industries.

Smaller companies are expected to contribute substantially to new job opportunities, but these smaller employers often lack the resources for formal training programs compared to larger employers. Moreover, it is particularly difficult for small businesses to get established in predominantly minority, depressed, or center city areas because they are stymied by the unavailability of investment capital from commercial banks.

THE CHANGING WORKFORCE

Mr. Chairman, other witnesses before this Subcommittee have detailed the many changes the workforce is expected to undergo during the next decade. I plan to highlight just a few of them.

First, it is important to note that the longer life expectancy of the American population is having little impact on the workforce. Although people are living longer, they are leaving the workforce earlier due to the availability of Social Security and the expanded coverage of other public and private pension plans. The only exception to this rule is women between the ages of 55 and 64, most of whom have worked in jobs without pension benefits. Nevertheless, as pension coverage continues to expand and is more equitably distributed between the sexes, older workers will continue to find retirement an attractive alternative to continued employment.

In some occupations, however, older workers will be essential to meet critical labor shortages. In other cases, they can be ideal as teachers to new workers. To accomodate these needs, employers will need to consider adjustments in such areas as working hours, pensions, and other benefits.

More significant is the actual decline in the number of young people coming into the workforce. That decline began in 1979 and is expected to continue until 1995. One result is that some businesses are having difficulty finding entry-level workers. But as many employers will tell you, the hardest part is finding someone who really has what used to be called a high school education. While the overall educational level of the workforce has soared dramatically since World War II, many personnel offices are struggling to fill entry-level positions because applicants lack basic math and literacy skills.

According to the best estimates, about 23 million adults in the U.S. are functionally illiterate. One of the great dangers in the near future is that this problem could grow substantially worse. The number of high-school dropouts, already running at about one million a year, is likely to climb.

This projected increase in the number of functional illiterates in the workforce is only one aspect of what is potentially the most disruptive social development over the next 15 years, the increasing number of children growing up in poverty in this country, up from 16.8 percent in 1975 to 21 percent in 1985. For blacks and Hispanics, the rates are far higher -- 46 percent and 39 percent respectively.

One of the most dramatic effects of poverty is its impact on educational attainment. Only 43 percent of black young people who come from poor homes ever graduate from high school. For whites, the figures aren't much better -- a graduation rate of only 53 percent. Looking at these statistics, some of the other numbers, however painful, are not really surprising. When almost half of all black children grow up in poverty, and most of those don't graduate from high school, it is not too surprising to learn that scarcely more than half of young black males aged 16 to 19 are even in the labor force; that less than a third of them are employed; that one quarter have never been employed.

Our rising dropout rate goes hand in hand with another of this country's most disturbing new trends, the increase in teenage pregnancy. About one million teenage girls become pregnant each year. Twelve percent of today's teenage girls are already mothers. Half of these young women will not graduate from high school. Half of them are single parents, raising their children without assistance. Three-quarters of all single mothers under 25 are living in poverty.

In the midst of our prosperity, we are facing the development of a potentially permanent underclass, composed of blacks, whites, Hispanics, and others. Most of our population, of whatever race or ethnic background, are making the transition from to school to work and are becoming part of society. But each year, hundreds of thousands of young people do not make the transition. They reach working age without the basic knowledge they need to learn even the simple skills necessary for success in an entry-level job. Without education and without opportunity, these people are becoming dangerously alienated from a society with which they have little in common.

IMPLICATIONS FOR PRODUCTIVITY

Mr. Chairman, despite its current sluggish performance, the American economy is projected to grow over the next decade. But even if economic expansion remains at moderate levels, slower labor force growth may produce tighter labor markets. Employers will have less freedom to pick and choose among a plentiful supply of applicants, as in the last decade. Unless tomorrow's workers are properly trained and educated for tomorrow's jobs, the nation's economic performance will be impaired.

Many of today's workers also need retraining for tomorrow's jobs. Millions of Americans now holding jobs cannot have any confidence that the skills that they possess will assure them of continued employment. If employers do not anticipate changes and prepare workers for them, job losses will occur. An increasing number of workers, who may need or want to change careers to increase job satisfaction or stability, may find that public and private institutions are unable to provide proper guidance about the labor market or to offer appropriate training. At best, this will result in losses in productivity; at worst it will lead to long-term dislocation.

Worker training and retraining already costs private industry some $30 to $40 billion a year. We need to build on this foundation to create an expanded public/private partnership that will take advantage of the resources of business, labor, education, and government employment and training programs. A closer integration of public and private training expertise and facilities would help assure workers that they will be able to acquire new skills and, if necessary, new careers. Such a program could greatly assist small business, which leads in the creation of new jobs but at the same time has a limited capacity for training.

Schools produce the labor force of business. Public schools must be improved so that growing numbers of students graduate with credentials that are reliable. Busines has important responsibilities in three significant areas. It can help upgrade the facilities of the schools, assure that skill training programs meet business needs, and relate the academic school curriculum to the world of work. These efforts will contribute to motivating youth in their school work and to assuring them of a job after graduation.

Some students, despite the best efforts of the schols and the business community, will fail. Public training programs and other community programs should then fill the breach, offering a second chance for these individuals to become productive citizens. By serving on local private private industry councils or similar boards, business can serve as a catalyst to bring public agencies together and assure that education and training efforts are coordinated and complement one another.

Additional Concerns

An unusually large concentration of prime age workers (25 to 44 years of age) during the coming decade will require additional labor market adjustments. Because these "baby boomers" will create a mismatch between the large supply of mid-career workers and a limited number of advancement opportunities, business will need to look for new rewards, reporting structures, and job structures. To avoid stagnation and to increase job satisfaction, some mid-career employees may seek lateral moves to new tasks or occupations -- and to new firms. If employers wish to retain committeed employees, they will need to provide or help to provide training, including time off for employees seeking additional training.

Business and government should also assist workers in securing child care and in providing working conditions sensitive to the needs of working parents. With women accounting for two-thirds of expected labor force growth, a more concerted effort by industry and the public sector is necessary to assure quality child care. Child care is important for workers' productivity and morale. It is also essential for the employment of welfare recipients.

The increasing number of single heads of households and two wage earner families need care for their children during working hours, but no one sector can assume full responsibility and costs. Because many businesses already realize that worker attendance and productivity can be affected, they are providing information on available child care or assisting in expenses through benefit packages. Businesses also need increasingly to consider flexible work schedules or greater part-time opportunities to meet the needs of parents. Since many needing child care, such as single heads of families, have lower incomes, governments must also respond.

FUTURE CHALLENGES

Mr. Chairman, it is clear that demographic changes in the American population present both a challenge and an opportunity for this nation. Favorable economic conditions over the next decade may present the best opportunity since the 1960s to make inroads in reducing joblessness, particularly among the nation's poor. But if we do not respond to these conditions intelligently and effectively, we could face the growth of a permanent underclass in America, alienated from society and unable to enter it.

If the nation's economy continues to operate as it has in the past, relying on a large pool of unskilled and semi-skilled workers to fill jobs in mass-production industries, we must be prepared for a substantial decline in our living standards. One of the things Americans have had to learn in recent years is that there is no magic formula for productivity and prosperity given to us alone. Other nations have copied our methods and imported our technologies, and are competing effectively for a larger share of the market in industries once dominated by American firms. If we are to continue to enjoy improvements in our standard of living, we must develop our human resources to take advantage of the most advanced technologies available. If we do not utilize the ingenuity and energy of all of our citizens, the rewards that should be ours will pass to others.

We at the Alliance do not claim to possess a blueprint for America's economic future. Instead, we like to talk about partnerships. While the federal government provides the overall policy direction and most of the money, public/private partnerships at the state and local level decide what kind of programs will be offered and how they will be operated.

Partnerships are the key, we believe, because we have got to do better with what we already have. They provide a basic tool for addressing the mismatches between workers and jobs that we see developing. If workers are to adjust an ever-changing, technologically sophisticated workplace, and if employers are to adjust to a changing workforce, there must be a vehicle for interaction and understanding. The partnership approach is part of the great American tradition of voluntary action, and it is an approach that can help make that tradition even greater than it is today.

The National Alliance of Business dates its existence from the late 1960s, the heyday of the famous and often-criticized "War on Poverty." Much of the rhetoric of that era may seem outdated, and many of its programs have been discarded, but the goals that motivated that effort -- full employment and a satisfying, productive life for all Americans -- are hard to fault.

We at the Alliance are suggesting that if we give our free enterprise system the trained workers it needs, we can begin to approach those goals. It is a job that is much too big, much too varied, for government to handle on its own. That is a lesson that we have learned since the Sixties. But we have also learned that good things do not just happen on their own. The problems I have been discusssing here today are not going to go away, are not even going to get better, unless an informed, educated public/private partnership makes up its mind to address them.

Representative SCHEUER. Excellent. Thank you very much, Mr. Kolberg. Professor Sternlieb.

STATEMENT OF GEORGE STERNLIEB, DIRECTOR, CENTER FOR URBAN POLICY RESEARCH, RUTGERS UNIVERSITY

Mr. STERNLIEB. We've had 50 years of a housing cycle set in place by the New Deal. It has triumphed very largely for most Americans—not for all of them.

For the bulk of those 50 years we have taken demand from a demographic point of view for granted. There were always more folks out there than we were going to provide housing for. The big issue was money availability.

Money hasn't gone away, but when we look at the future of household formation, the dominant influence of the baby bust generation is evident. In the 1970's, we had 1.7 million new households a year. And, not by chance, it was the biggest housing decade in our history—20 million net additions to the housing stock, nearly a quarter added to the housing stock in 10 years.

From 1980 to 1983, we went down to a million, in part a function of the recession. When we look at household formation through the balance of the 1980's, you'd better not figure on housing being the locomotive to pull the economy out of wherever it's going. We see a shrinkage down to about 1.3 million new households. From 1990 to 1995, the equivalent is about 1 million, and the number actually tapers off toward the end of the century.

That represents an enormous reduction of demand from recent history. But there is a countervailing trend here: The already housed baby-boom generation—if the linkage between income and age of household continues—is going to be more affluent and looking for a trade-up house.

The market basically is going to be a trade-up market much less an entry level market. It's an up-scale market. It is not a mass market.

Within that context—and for us who live in the New York, New Jersey, Connecticut area this is very hard to believe—it's an ownership market. It is not a rental market.

By the time heads of households hit the age of 50, 80 percent are owners. Housing has not lost its charm and its dominance in American folkways or spending. The new center of the marketing pork chop, in fairly short order, is going to be that 40- to 50-year-old, again up-scale, but much leaner in the way of total scale.

Within that demand configuration, I'd like to touch on blacks very briefly. About 20 percent of the growth of households in the 1990's is going to be black.

We have not done a hell of a good job in terms of integrating blacks as homeowners in places were blacks can make money by being homeowners. I want to stress that point again. In America, the chief function of home ownership is not to provide shelter; it's to provide capital accumulation. It's the super-Christmas club. It's a form of forced saving. It is the only real leveraged investment that all but the affluent can make.

For blacks, it has not worked out. That's very important because that's lump money. That's intergenerational money. Blacks are much more dependent upon FHA. They have limited assets in terms of downpayments. If you're going to provide homeownership opportunities, you're going to have to think, in the midst of a market that's going away from entry level housing and politically going away from entry level housing, how are you going to make provision for the folks who haven't gotten abroad the train yet?

For an aerial perspective—and I was asked to touch on suburb versus central city—we have within a very few select central cities a central city within the central city emerging. The city of Manhattan and a few of its colonies versus the old industrial city. It's Society Hill and a few other areas in Philadelphia. I could go on.

Despite this, the center and the focal point of the action is suburban and increasingly exurban. The Census Bureau may quarrel with me there in terms of expansion of metropolitan areas and they're wrong. Two-thirds of all the office space currently being built in the United States is being built outside of the central business district. It is suburban.

Northern New Jersey has gotten more office space than Manhattan since 1975, and that is not changing.

If you go to the Chicago area, the action is 30 to 40 to 50 miles out. It's places on the other side of O'Hare Airport where I swear 20 years ago there were only cowboys and Indians. Now there are "villages" with nearly 100,000 people.

The bulk of the employment growth in the United States is moving out and the housing is moving out even farther. Again, that is a phenomenon that we're just beginning to take notice of in the greater New York area: The suburbanization of the old farm counties, not merely of Putnam County but of Orange County, Dutchess County, and the like.

America is decentralizing more rapidly probably than any society in history and I think increasingly so in housing.

That leaves a bigger and bigger gap between the leftovers of the industrial city: both human and in some cases infrastructure and housing structure and the like, and the cutting edge. Because, again, that cutting edge of the new action, of capital accumulation through homeownership, is moving out.

All the factors combined that I've just touched on make it increasingly difficult to put together a constituency for social housing.

Representative SCHEUER. What do you mean by social housing?

Mr. STERNLIEB. Social housing, that is, deep subsidy housing for the people who need shelter as against that postshelter society looking for capital accumulation, looking for the "right" area and the like. The latter is a minority within our population.

Renting increasingly is a province of minority groups and female-headed households. More than a third of all the rental units, for example, in New York City now are female-headed households. That's increasing right across the country.

The demographics say there will be an ever-increasing barrier between the two groups, those who have made it in the housing train and those who basically are just reaching for the caboose. I'll close with that.

[The prepared statement of Mr. Sternlieb follows:]

PREPARED STATEMENT OF GEORGE STERNLIEB

AMERICA'S HOUSEHOLDS AND HOUSING: THE BALANCE OF THE CENTURY

Dr. George Sternlieb
Dr. James W. Hughes

Prepared for the
Joint Economic Committee
Subcommittee on Economic Resources,
Competitiveness and Security Economics
Congress of the United States

July 29, 1986

George Sternlieb, who holds his doctorate from the Harvard Business School, is Director of the Center for Urban Policy Research and Professor of Urban Planning and Policy Development at Rutgers University. He is a member of the Census Advisory Committee on Population Statistics, a trustee of the Urban Land Institute, and he has served on a number of Presidential task forces on urban development.

James W. Hughes is Chair and Graduate Director of the Department of Urban Planning and Policy Development at Rutgers University. He holds a Ph.D. in Urban Planning from Rutgers. He has been both a Woodrow Wilson and Ford Foundation Fellow, and is a contributing editor to *American Demographics*. He has served on a number of federal and state housing and planning task forces.

The past serves as a prelude to and foundation of the future, yet there are few straight lines in human events. Many of the key relationships and forces of the past will extend into the future, but new household and housing patterns will emerge.

The remorseless process of aging, for example, will -- fortunately or unfortunately -- persist. Housing consumers 35 to 44 years of age in 1985 will inevitably become the 45 to 54 year-old consumers of 1995, and the 50 to 59 year-old consumers of the year 2000. And as such consumers mature, many predictable changes will occur. Nonetheless, while certain directions can be foreseen and quantitatively delineated, forecasting their exact scale and unanticipated variations is an uncertain art form.

The issues of future housing demand and supply requirements are crucial not only to national economic forecasting, but also to all those -- public or private, directly or indirectly -- involved with the housing cycle. Primary in providing some definition to housing's broad future is the issue of projected household growth. How many households will be formed within a finite period of time in the future? What will their age profile look like? What shape or configuration are they likely to assume? Will these future consumers be disposed to choose -- or be forced to choose -- rental tenure or ownership? Will their age and configurational attributes yield further insight as to other proclivities: are they going to be first-time homebuyers, or is there a strong potential for the upscale, trade-up market? At the other end of the spectrum, given our present knowledge of linkages between age, household configuration, and income, will there be a renewed demand for social housing? And what of race?

The questions are many -- the answers are difficult. There are two areas of relative certainty. The first of these is the stability of projections of the adult population to come -- certainly for the balance of the century. The number of children may fluctuate, but the prime housing consumers -- adults at the householder ages -- are relatively finite, they already exist. Secondly, once again, unless there are massive societal changes, the linkages between age and the household and shelter life cycles have been established so thoroughly in the past as to warrant at least initial extension into the future.

In this presentation, we detail our results secured by projecting the housing and household choices of 1984 -- the most recent detailed Current Population Survey data -- into future household profiles. The process used here assumes that headship rates, i.e., the propensity to form households of specific types by given age groups, will remain at 1984's levels. We further define housing-tenure choice by the market penetration of owner/renter formats within the various household age-configurational segments as of 1984. By applying what is known about present household dynamics to future population parameters, an initial reading of one of housing's more probable future courses is secured.

The reader must be warned once again that many elements -- not least of them the economy, to say nothing of changing tastes -- may wreak havoc with this scenario. Business-cycle vagaries will always yield short-term fluctuations; the pervasive tendency to read long-term trends into current events is an ever-present pitfall that has left bankruptcies in its wake. Fortunately, housing is an enormously potent good -- its consumption ramifications subject to more inertia, to more in the way of conservative "doing tomorrow what we did yesterday," than any other consumer good. The internal structure has a tremendous capacity to persist, whatever the shape of the fashionable "externals" of the amount.

THE RECENT BASELINE

Understanding the housing demographics to come requires a brief overview of the recent past. Exhibit 1 indicates some of the decade-long trendlines of numerical household growth as well as detailed data from 1980 through 1985. The latter illustrates the short-term distortions rising as a function of the business cycle.

The decade of the 1970s provided enormous challenges to America in assimilating the baby-boom generation. Not only was there a substantial increase in the growth of the labor force, but there was also a parallel expansion of households and housing demand.

The average annual household growth level of the 1960s increased by 75 percent during the 1970s from 1.06 million to 1.74 million households per year.

The sharp economic variations of the 1980s, however, are also mirrored in the household data of the exhibit. The 1.6 million household growth in 1980-1981 was followed by a 1.2 million increment between 1981 and 1982. And this was only a prelude to the full impact of America's sharpest economic downturn since the Depression. Household growth from 1982 to 1983 dipped to a post-World War II low (391,000). And all of these variations were further reflected in the housing market. The lowest level of housing starts in more than thirty years took place in 1982.

The economic recovery years of 1983 through 1985 brought a parallel growth in the number of households, but the annual increases still fell short of the average annual change of the 1970s. From 1980 through 1985, the average annual growth in households was only 1.2 million, fully one-half million less per year than the experience (1.74 million) of the 1970s. While much of this reduction was a reflection of the business cycle, it signals even more potent basic demographics at work in the future.

PROJECTIONS: THE BASIC COURSE

The market demographics of the decade to come pose sharp contrasts, and with them, opportunities. The principal definition of these elements is presented in Exhibits 2 and 3, which indicate projected household growth *increments* by age, configuration, and housing tenure from 1984 to 1995 and 1995 to 2000. (The projection methods are detailed at the end of this presentation.) Total household growth during the first 11 years is projected to be slightly over 13 million, i.e., an average annual household gain of 1.2 million, a drastic reduction from the 1.7 million household annual average of the 1970s. Thus, the coming of age of the baby-bust generation during the next decade begins to take its toll. In the same time period, the maturing baby-boom generation yields a general propensity to form *family* households, particularly in the *homeownership* sector. If we review past trends, this would indicate a strengthened proportionate demand for ownership, with the reduction in total new housing requirements (as a function solely of household growth) primarily centered on the rental sector. The latter phenomenon is indicated by the approximately three-quarters share (10 million out of 13 million) of net household growth which is captured by ownership through 1995. *In essence, holding other factors constant, the demographics call for a stronger ownership sector -- weaker rental growth.*

In Exhibit 2 the principal demand sectors are evident. Married-couple configurations dominate the growth increments through 1995 which, again, are the result of an aging baby-boom generation. This is further reflected in the center of the growth market -- owner couples 35 to 54 years of age. Much less significant than in the 1970s are more youthful groups, and nonfamily household configurations. Renter household growth is buoyed up not by youth -- there is a decline of more than 700,000 in the under 25-year old renter sector -- but rather by absolute expansion in the more mature groups, particularly the 35 to 44 year olds.

The potency of a maturing demography is further emphasized in the years immediately prior to the century's end (1995-2000). All of the dynamics projected for 1984 to 1995 will be present in the latter period (Exhibit 3). Household growth, for example, will continue its shrinkage to below 950,000 annually. The net gain of renter households will be most impacted, diminishing to only 135,000 a year as compared to 800,000 additional owner households. The terminal five years of the century thus will be characterized by relatively small household increments and a more modest level of housing activity, further concentrated in the ownership sector. The aging of the baby-boom generation will be mirrored by the new dominance of households 45 to 54 years of age. This will be the leading growth sector of the 1995 to 2000 period. By way of contrast, the shrinkage generated by the baby-bust generation will impact the 25 to 34 year-old householder group, which will contract by nearly 2 million in a brief five-year period.

The future of housing demand will be quite different from the two generations following World War II It is a scenario of a slowing of household growth being mirrored by a decline in the numerical level of housing starts. But as a function of age and household type, the demand increment will be skewed to the upscale. This is of particular relevance for builders of rental units. Given the traditional linkages of married couples to higher incomes, the 35 to 54 year-old bulge -- of 1.6 million new married-couple *renter* households between 1984 and 2000 -- provides some allure. Rental demolition rates normally are much higher than they are for individually owned homes -- the replacement requirements equally commensurate. When this is combined with the changing consumer pattern of renters, it portends significant opportunities. Given the relatively positive income attributes of the new growth sectors among renters, the potential of hybrid formats -- of rental units with purchase options or lease/purchase agreements -- is particularly noteworthy.

The other side of the coin is the far less salubrious growth in female renter householders These are groups, as will be shown subsequently, which have the lowest buying power. Even though their growth will diminish substantially by the 1990s, this is the most troubled sector of the housing market.

The rise of the elderly remains a potent housing reality through 1995, but their expansion in absolute terms is more limited than in past decades. More than 3 million owner households 65 years old and over and more than 1 million renter equivalents account for approximately three in ten of total household growth. In the years following 1995, however, their share of growth declines even further, reflecting the birth dearth of the Depression Era. Nonetheless, the rise of the "elderly" elderly, those over 75 years of age, suggests the need and potential of new alternate housing opportunities.

The 1970s may have been the era of singles and mingles -- the 1990s represent a return to a much more conventional pattern, with the vast historical middle of married-

couple families reasserting itself. It is a picture of more modest housing production in number of units, but at higher levels of amenity -- and cost.

From a demographic point of view, the period as a whole suggests a modestly proportioned base for the housing industry. Lurking in the shadows, as we come to the end of the period, is the drastic negative impact of the baby-bust generation, signaled initially by the shrinkage in the total number of households under 25 years of age and then the 25 to 34 year-old sector by the year 2000. The first-time homebuyer, indeed the builder of rental units, may well have to worry about replacement buyers/tenantry as the century draws to a close.

As shown in Exhibits 4 through 7, it is the years to 1990 which are the most positive. The share of growth both of owners and renters is concentrated there, while from 1990 to 2000 there is an abrupt shrinkage. This is principally focused among renters, with a halving of the average annual growth increment as we move from the late 1980s to the early 1990s, and another halving by the late 1990s. Thus the decline in total household growth accelerates perceptibly through the 16-year period particularly among rental-shelter seekers.

From a market perspective the potency of the aging baby-boom generation is evident. But its successor -- the baby-bust generation -- will try the ingenuity of the housing industry in equally profound fashion. A Biblical parable is suggested -- early years of fruitfulness, followed by years of relative want. All of this is subject to changes in the housing consumption patterns of Americans, and the income realities which subtly -- and not so subtly -- influence them. But holding this latter element constant leaves a vision of the wind-up years of the century starting out in a sturdy fashion, but tiring badly as we hit the last decade. We would suggest, however, that *this is a window of opportunity. It provides a potential for a vast upgrading of America's housing stock, particularly for low- and moderate-income demographic sectors. To bring this to fruition, however, will require new governmental initiatives.*

DETAILED PARAMETERS

The household ramifications arising just from the aging of America deserve to be restated. While time and events certainly will alter the course depicted here, it still represents the future central housing path.

1. Between 1970 and 1980, the number of households in the United States increased by 1.7 million per year. A massive retrenchment took place in the early 1980s, as world-wide recession placed an economic damper on household formation. Between 1980 and 1983, the average annual gain in households barely exceeded 1 million, virtually equivalent to the 1960s' experience.
2. The 1984 to 1990 projections show annual average household increases shifting to the 1.3 million level. This scale of growth falls somewhat in between the furious pace of the 1970s and the more sedate patterns of the 1960s and early 1980s.
3. A further diminishment in the 1990s is also projected. Between 1990 and 1995, the annual average gain in the number of households should retreat toward 1 million, i.e., the equivalent of the disaster years of the early 1980s. A much more mature America of nearly 100 million households will be dominated by those "settled in" to their middle years. By the last five years of the century, the shrinkage becomes a stampede, with household growth averaging only 900,000 annually.
4. This pattern is confirmed by related demographic and economic anticipations in the United States. Labor-force

projections of the Bureau of Labor Statistics, for example, suggest an average annual labor-force growth of 1.8 million persons during the 1980s, but only 1.2 million in the 1990 to 1995 period. These projections represent a severe slippage from the 1970s, when the labor-force bulge yielded an unparalleled gain of 2.4 million participants annually. The impending transition reflects the reduction in newcomers (the baby-bust generation).

5. Homeownership will expand its share of shelter. During the 1970s, 70 percent of the household gain comprised owner households. Between 1984 and 1990, ownership is projected to account for over 72 percent of household growth, with a further surge to 85 percent in the 1990 to 2000 era.
6. However, with overall household-growth increments contracting, this sharp marginal increase in proportion will only boost the total share of homeownership by 2000 to 67.2 percent, as compared to 64.4 percent in 1980 and 62.9 percent in 1970. Nonetheless, the long-term homeownership ethic, in the absence of radical shifts in tax policy or major socioeconomic disruptions, will reach a historic pinnacle by the year 2000.
7. Housing producers will have to be wary of the potentially modest scale of housing requirements. For example, even though ownership will account for over 83 percent of the tenure selections of the 1990-1995 household increment, this translates in absolute terms to 883,000 owner

households annually, fully one-quarter lower than the 1.2 million yearly average of the 1970s.

8. And suppliers of new rental accommodations face even more drastic adjustments. Renter households in the 1970s grew by more than one-half million annually. Their projected yearly increment in the 1990 to 1995 period will fall below 170,000. The demographically induced decline of new labor-force entrants will be paralleled by the shrinkage of new recruits into the ranks of renter households. But more married couples may choose rental housing, reversing their withdrawal from this shelter choice which characterized the 1970s.
9. The future age partitions of America's households accentuate the probability of these dynamics. Through the balance of the 1980s, households 35 to 44 years of age dominate the growth profile, but in the 1990s, they will be supplanted by (i.e., 'they will progress into) the 45 to 54 year-old sector. Yuppies will be transformed into Grumpies -- grown-up mature persons. Jogging, health foods, and exercise clubs cannot deflect aging. Mature adulthood, however, brings with it increasing rates of homeownership. Householders at their 50th birthday approach an 80 percent homeownership rate.
10. Rentership rates, in contrast, are highest in the younger age brackets, and the latter will decline. Contraction is the rule in the under 25 years of age sector during the balance of the 1980s and will be reflected in the number of 25 to 34

years-old householders in the 1990s. The latter will decrease by almost 2 million in the 5 years between 1995 and 2000 (renters and owners combined); but this age sector will still remain the largest rental target, accounting for 9 million out of 34 million renter households.

11. And in the 1990s, the seemingly relentless growth of the elderly will begin to abate. The demographic cohort produced by the birth dearth of the 1920s and 1930s (which, in turn, as it helped form the "nesting generation" of the 1960s, spawned the baby-boom eruption) will have begun to settle into their retirement years. Households over 65 years of age will secure their smallest growth contingents in more than half a century. But because of the reduced scale of overall growth, they will maintain their market share. The focus of housing for the elderly will be more a tribute to their increased age than their growth in number.
12. Coinciding with the overall aging tendencies will be changes in the configuration of America's households. Although not sufficient to resurrect the American family norm of the 1950s -- a norm which seemed to collapse in a single generation -- married-couple families will make a decided comeback. Between 1970 and 1984, married couples increased by about 5.5 million, barely 25 percent of the total household increase. The 1984 to 1995 projections, however, indicate married couples increasing by almost 8.3 million, representing 63 percent of the 13.1 million total household increment. This penetration increases from 1995 to 2000,

with married couples responsible for two-thirds (3.1 million) of the total household growth of 4.7 million.

13. In contrast, the explosive growth of both family and nonfamily-female householders should abate. For example, female householder families increased by more than 3.2 million between 1970 and 1980; between 1984 and 1995, they will increase by less than 1.6 million. Since, this is a lower-incomed household configuration, one of the nation's more potent shelter dilemmas may be mitigated.
14. The diverging growth paths of married-couple and female-householder families underscore our vision of a tilt toward a more upscale market climate. In particular, the bulk of the growth in married-couple families will be married-couple *owners* between the ages of 35 and 54 years. As we will detail, these comprise the most affluent household sector.
15. Will the generation that promised never to trust anyone over 30 reach the point where they will cast a hostile glance at anyone under 40? Or will it adopt the housing and family folkways of the 1950s as the stabilizing effects of mature adulthood take hold? The revolution of alternate life-styles of the 1960s was never as widespread as its critics feared. The Woodstock generation clings to housing in a fashion similar to its predecessors.

It is income, translated into housing-buying power, that will provide the locomotive of the future housing-demand train. While "the demographics of affluence" depend on the national economy, the maturing of America should yield household income possibilities far in excess of those of the 1970s.

THE DEMOGRAPHY OF INCOME

Family income in America exhibits substantial variation according to age of householder and household type. Thus, as shown in Exhibit 8, the income life cycle starts at relatively low levels. In 1984, all households under 25 years of age had a median income of under $14,000. Income increases as households age, peaking during the 45 to 54 year age span ($34,482 in 1984). Incomes then descend as early and full retirements take their toll.

The variations by household type are even more profound. Married-couple families stand on the upper rungs of the income ladder, with a median approaching $30,000 in 1984. On the top step stand married couples 35 to 54 years of age ($35,000+) And it is this age-configurational cluster that our projections show as the dominant growth sector throughout the balance of the century.

Situated much lower on the ladder are female householders (typically single-parent families), with a median 1984 income of only $12,803, barely 40 percent of the overall married-couple median. Particularly income deficient are those female householders under 35 years old, whose incomes fail to reach even $10,000.

Further influencing household incomes is the degree of participation in the labor force. As shown in Exhibit 9, while the overall household median income in 1984 was under $23,000, families with wives and householders both employed year-round full-time had a median income nearly double this level -- $40,362.

The contrast is painfully evident with female householders and nonfamily households, which composed the major growth sectors of the 1970s. This was largely responsible for the current vision of a society becoming increasingly partitioned between those of affluence -- the two-worker household -- and those of want -- particularly single parent (female-headed) families.

But the demographic relationship to income is far from all-determining. Again, the scale of income, and with it housing-buying power, depends in very large part on the future vigor of the national economy. This is illustrated in Exhibit 10, which provides median family income data, both in actual and in real terms (in constant 1984 dollars), from 1950 through 1984. The median family income in America (in constant 1984 dollars) peaked in 1973, slightly in excess of $28,000. After declining in the recession of 1974-75 it nearly attained a comparable level in 1978-79, only to decline abruptly as the 1980 and 1981-82 recessions took their toll. *While income growth has resumed again in the mid-1980s, we are still prisoners of the business cycle. Nevertheless, the demographics of tomorrow are far more sanguine than those of the recent past.*

A Note on Race

The broad sweep of demographic data must be tempered by racial issues. This is particularly the case when housing is under consideration. There has been much more progress -- limited though it may be in the absolute -- in social and employment integration than has been enjoyed in the housing domain. Thus problems of *location* are particularly pressing when we view racial minorities.

Secondly, if homeownership, an increasingly crucial instrument of middle-class status and full economic citizenry, is to be encouraged, there is a significant federal policy issue. Holding incomes constant, blacks are much more dependent upon FHA or other instruments for low-downpayment homeownership acquisition.

The pressures, both of location and financing, have been most burdensome in the past. They will become even more onerous in the future. As shown below, the proportion of blacks to whites by age sector is most dominant in youth.

BLACK/WHITE POPULATION BY AGE, 1983

Age	*Ratio*	*Age*	*Ratio*
Under 5	.197	40-44	.122
5-9	.183	45-49	.122
10-14	.180	50-54	.113
15-19	.179	55-59	.104
20-24	.163	60-64	.097
25-29	.147	65-74	.093
30-34	.138	75 and over	.084
35-39	.121		

Source: U.S. Bureau of the Census, *Statistical Abstract of the U.S.: 1985* (Washington, D.C., 1984), p. 28.

The black-white proportion in 1983 for children under the age of 5 years was .197, i.e., for every 100 whites there were nearly 20 blacks. By way of contrast when the traditional groups of current homeowners are examined, i.e., the 35 to 49 year-old sector, the equivalent ratio is one-third -- approximately .12.

Our own estimates of black household formation in the future parallel these data. From 1990 through 2000 approximately 20 percent of the total increment in households will be black. While equivalent estimates for Hispanic groups must wait on more detailed building block data, there is no question that the pressures both of integration, and of financing, must grow in the future.

PROJECTION METHODOLOGY

The basic household projection methodology is the product of two separate age-segmented projections -- headship rates and population. Of the two, it is the former which can exhibit more substantial future volatility. Population, in contrast, assuming migration does not shift markedly, is much less sensitive. Within the United States, the pool of all future householders (household heads) through the next 14 years is presently alive. The scale of household formation emanating from this pool, however, will be dependent on historical and emerging social and economic forces. The latter will yield the level and shape of future headship rates.

Exhibit 11 is the historic (1984) base of our analytical procedure. Households are segmented by age of householder and type of configuration, and further partitioned by owner and rental tenure. Headship rates for 1984 were derived by dividing each column of Exhibit 11 by the population vector of Exhibit 12. The result, as detailed in Exhibit 13, is two 30-cell headship rate matrices, one for owner tenure and one for rental. Thus, headship rates are specified by age, household configurations, and tenure.

For example, of those individuals 35 to 44 years of age in 1984, 37.3 percent were heads of household who owned their own home, and 16.8 percent were heads of household who rented. Further segmenting the 35 to 44 year-old owner group, 29.5 percent were married couple owners, 0.9 percent "other family" male owners, 3.7 percent "other family" female owners, 2.0 percent "nonfamily" male owners, and 1.2 per-cent "nonfamily" female owners. The sum of these configurational-specified rates equals the 37.3 percent total.

We have assumed that future headship rates will remain at their 1984 levels. It is this assumption that is most critical to the entire procedure. Headship rates increased substantially during the 1970s, particularly for nonfamily households. This was the principal dynamic underlying the configurational revolution of that era. Whether it can continue is open to very real questions, particularly given the sobering evidence provided by the 1980-1982 recession. The exercise presented here does not assume the "revolution" will be undone, but rather that it will not advance beyond the threshold reached in 1984.

The headship rates of Exhibit 13 are then applied to the Census Bureau age-specified population projections for 1990, 1995, and 2000. The population projections, presented in Exhibits 14, 15, and 16, encompass total population (including armed forces overseas). These are converted to resident population equivalents, since the latter formed the base for the original headship rates. This is done by deleting the overseas armed forces estimates.

The products of the application of the headship rates to the population projections are the household projections detailed in Exhibit 17 (1990), Exhibit 18 (1995), and Exhibit 19 (2000). The resulting age, configuration, and tenure matrices are identical in form to Exhibit 11, our 1984 starting point. The summary exhibits of intraperiod changes have already been presented at the beginning of this presentation.

Alternative household projection sets can be generated with different headship rate assumptions. For example, under the premise that the headship rate eruption of the 1970s represents an inexorable force that will continue through the balance of the century, then future headship rates can be forecast via any linear or nonlinear projection model, using the 1970 to 1980 period, for example, as a historical baseline. The end result would be a forecast of more households in total, and for greater numbers of "atypical" households.

Similarly, the recession-reduced headship rates of the 1980-1984 period, if extrapolated into the future, would yield more negative numbers. The 1984 figure used here represents a measure of compromise.

EXHIBIT 1

RECENT HOUSEHOLD GROWTH TRENDS
1980-1985, BY YEAR, AND 1960-1985, ANNUAL AVERAGE
(Numbers in Thousands)

Year or Period	Total Households	Annual Change Period	Annual Change Number
1980	80,776	-	-
1981	82,368	1980-81	1,592
1982	83,527	1981-82	1,159
1983	83,918	1982-83	391
1984	85,290	1983-84	1,372
1985	86,789	1984-85	1,499

	Average Annual Change
1960-70	1.06 million
1970-80	1.74 million
1980-83	1.05 million
1983-85	1.44 million

Note: Data as of March for the respective years.

Source: U.S. Bureau of the Census, Current Population Reports, HOUSEHOLDS, FAMILIES, MARITAL STATUS AND LIVING ARRANGEMENTS: MARCH 1985, U.S. Government Printing Office, Washington, D.C., 1985.

EXHIBIT 2

PROJECTED HOUSEHOLD GROWTH INCREMENTS BY AGE, TYPE AND TENURE, U.S. TOTAL: 1984 TO 1995

(Numbers in Thousands)

OWNER HOUSEHOLDS

		Family			Nonfamily	
			Other Family			
	Total	Married Couple	Male House-holder	Female House-holder	Male House-holder	Female House-holder
Under 25	(152)	(97)	(6)	(11)	(24)	(15)
25 to 34	(120)	(93)	(2)	(8)	(11)	(5)
35 to 44	4,200	3,317	102	420	222	140
45 to 54	3,895	3,063	90	375	172	195
55 to 64	(591)	(424)	(12)	(47)	(29)	(80)
65 and Over	2,899	1,497	52	235	218	896
TOTAL	10,132	7,263	224	964	549	1,132

RENTER HOUSEHOLDS

		Family			Nonfamily	
			Other Family			
	Total	Married Couple	Male House-holder	Female House-holder	Male House-holder	Female House-holder
Under 25	(711)	(259)	(21)	(117)	(171)	(143)
25 to 34	(138)	(58)	(4)	(24)	(30)	(21)
35 to 44	1,892	781	72	471	364	204
45 to 54	1,140	431	43	245	219	202
55 to 64	(153)	(52)	(4)	(20)	(33)	(45)
65 and Over	952	211	14	73	146	508
TOTAL	2,982	1,054	101	628	394	705

EXHIBIT 3

PROJECTED HOUSEHOLD GROWTH INCREMENTS
BY AGE, TYPE AND TENURE, U.S. TOTAL: 1995 TO 2000
(Numbers in Thousands)

OWNER HOUSEHOLDS

		Family			Nonfamily	
			Other Family			
	Total	Married Couple	Male Householder	Female Householder	Male Householder	Female Householder
Under 25	49	31	2	3	8	5
25 to 34	(918)	(716)	(19)	(62)	(85)	(35)
35 to 44	652	515	16	65	35	22
45 to 54	2,478	1,949	57	239	109	124
55 to 64	1,321	947	26	105	64	178
65 and Over	441	228	8	36	33	136
TOTAL	4,024	2,954	90	386	164	429

RENTER HOUSEHOLDS

		Family			Nonfamily	
			Other Family			
	Total	Married Couple	Male Householder	Female Householder	Male Householder	Female Householder
Under 25	227	83	7	37	55	45
25 to 34	(1,058)	(448)	(27)	(187)	(231)	(164)
35 to 44	294	121	11	73	57	32
45 to 54	725	274	27	156	139	128
55 to 64	342	117	8	44	73	100
65 and Over	145	32	2	11	22	77
TOTAL	675	179	29	134	114	219

EXHIBIT 4

PROJECTION SUMMARY:
TOTAL AND AGE DISTRIBUTION 1984 TO 1990
(Numbers in Thousands)

TOTAL

	1984		1990		Change: 1984-1990		Average Annual Change
	Number	Percent	Number	Percent	Number	Percent	
TOTAL	85,407	100.0%	93,268	100.0%	7,861	100.0%	1,310
Owner	55,157	64.6%	60,875	65.3%	5,718	72.7%	953
Renter	30,250	35.4%	32,393	34.7%	2,143	27.3%	357

AGE DISTRIBUTION

	OWNER				RENTER			
			Change: 1984-1990				Change: 1984-1990	
	1984	1990	Number	Percent	1984	1990	Number	Percent
TOTAL	55,157	60,875	5,718	10.4%	30,250	32,393	2,143	7.1%
Under 25	972	855	(117)	-12.1%	4,539	3,991	(548)	-12.1%
25 to 34	9,201	9,761	560	6.1%	10,607	11,253	646	6.1%
35 to 44	11,441	14,093	2,652	23.2%	5,155	6,350	1,195	23.2%
45 to 54	9,648	10,959	1,311	13.6%	2,823	3,207	384	13.5%
55 to 64	10,421	9,895	(526)	-5.0%	2,700	2,564	(136)	-5.0%
65 and Over	13,475	15,311	1,836	13.6%	4,426	5,029	603	13.5%

EXHIBIT 5

PROJECTION SUMMARY:
TOTAL AND AGE DISTRIBUTION 1990 TO 1995
(Numbers in Thousands)

TOTAL

	1990		1995		Change: 1990-1995		Average Annual
	Number	Percent	Number	Percent	Number	Percent	Change
TOTAL	93,268	100.0%	98,522	100.0%	5,253	100.0%	1,051
Owner	60,875	65.3%	65,290	66.3%	4,415	84.0%	883
Renter	32,393	34.7%	33,232	33.7%	839	16.0%	168

AGE DISTRIBUTION

	OWNER				RENTER			
			Change: 1990-1995				Change: 1990-1995	
	1990	1995	Number	Percent	1990	1995	Number	Percent
TOTAL	60,875	65,290	4,415	7.3%	32,393	33,232	839	2.6%
Under 25	855	820	(35)	-4.1%	3,991	3,828	(163)	-4.1%
25 to 34	9,761	9,081	(680)	-7.0%	11,253	10,469	(784)	-7.0%
35 to 44	14,093	15,641	1,548	11.0%	6,350	7,047	697	11.0%
45 to 54	10,959	13,543	2,584	23.6%	3,207	3,963	756	23.6%
55 to 64	9,895	9,830	(65)	-0.7%	2,564	2,547	(17)	-0.7%
65 and Over	15,311	16,374	1,063	6.9%	5,029	5,378	349	6.9%

EXHIBIT 6

PROJECTION SUMMARY:
TOTAL AND AGE DISTRIBUTION 1995 TO 2000

(Numbers in Thousands)

TOTAL

	1995		2000		Change: 1995-2000		Average Annual
	Number	Percent	Number	Percent	Number	Percent	Change
TOTAL	98,522	100.0%	103,221	100.0%	4,699	100.0%	940
Owner	65,290	66.3%	69,313	67.2%	4,024	85.6%	805
Renter	33,232	33.7%	33,907	32.8%	675	14.4%	135

AGE DISTRIBUTION

	OWNER				RENTER			
			Change: 1995-2000				Change: 1995-2000	
	1995	2000	Number	Percent	1995	2000	Number	Percent
TOTAL	65,290	69,313	4,024	6.2%	33,232	33,907	675	2.0%
Under 25	820	868	49	5.9%	3,828	4,055	227	5.9%
25 to 34	9,081	8,164	(918)	-10.1%	10,469	9,411	(1,058)	-10.1%
35 to 44	15,641	16,293	652	4.2%	7,047	7,341	294	4.2%
45 to 54	13,543	16,022	2,478	18.3%	3,963	4,688	725	18.3%
55 to 64	9,830	11,152	1,321	13.4%	2,547	2,889	342	13.4%
65 and Over	16,374	16,815	441	2.7%	5,378	5,523	145	2.7%

EXHIBIT 7

PROJECTION SUMMARY BY HOUSEHOLD CONFIGURATION: 1984 TO 2000 (Numbers in Thousands)

	OWNER				RENTER			
			Change: 1984-1990				Change: 1984-1990	
	1984	1990	Number	Percent	1984	1990	Number	Percent
TOTAL	55,157	60,875	5,718	10.4%	30,250	32,393	2,143	7.1%
Family								
Married Couple	38,945	42,906	4,061	10.5%	11,244	12,043	799	7.1%
Male Householder	1,183	1,306	123	10.4%	847	913	66	7.8%
Female Householder	4,677	5,206	529	11.3%	5,201	5,634	433	8.3%
Nonfamily								
Male Householder	3,558	3,903	345	9.7%	6,194	6,569	375	6.1%
Female Householder	6,894	7,556	662	9.6%	6,764	7,234	470	7.0%

	OWNER				RENTER			
			Change: 1990-1995				Change: 1990-1995	
	1990	1995	Number	Percent	1990	1995	Number	Percent
TOTAL	60,875	65,290	4,415	7.3%	32,393	33,232	839	2.6%
Family								
Married Couple	42,906	46,110	3,204	7.5%	12,043	12,297	254	2.1%
Male Householder	1,306	1,406	100	7.6%	913	948	35	3.8%
Female Householder	5,206	5,642	436	8.4%	5,634	5,829	195	3.5%
Nonfamily								
Male Householder	3,903	4,108	204	5.2%	6,569	6,687	119	2.1%
Female Householder	7,556	8,027	471	6.2%	7,234	7,470	235	3.3%

	OWNER				RENTER			
			Change: 1995-2000				Change: 1995-2000	
	1995	2000	Number	Percent	1995	2000	Number	Percent
TOTAL	65,290	69,313	4,024	6.2%	33,232	33,907	675	2.0%
Family								
Married Couple	46,110	49,064	2,954	6.4%	12,297	12,475	179	1.5%
Male Householder	1,406	1,496	90	6.4%	948	977	29	3.0%
Female Householder	5,642	6,028	386	6.8%	5,829	5,964	134	2.3%
Nonfamily								
Male Householder	4,108	4,272	164	4.0%	6,587	6,902	114	1.7%
Female Householder	8,027	8,456	429	5.3%	7,470	7,689	219	2.9%

EXHIBIT 8

MEDIAN FAMILY INCOME
BY FAMILY TYPE AND AGE OF HOUSEHOLDER: 1984
(1984 Dollars)

	Family Household Type			
			Other Family	
Age of Householder	Total	Married Couple	Male Householder	Female Householder
Total	$26,433	$29,612	$23,325	$12,803
15 to 24	13,791	17,396	13,736	5,337
25 to 34	25,157	28,251	23,875	8,999
35 to 44	31,154	35,436	26,132	14,402
45 to 54	34,482	38,081	29,770	18,317
55 to 64	29,303	31,330	22,546	17,659
65 and Over	18,215	18,567	19,497	15,980

Source: U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 151 MONEY INCOME OF HOUSEHOLDS, FAMILIES AND PERSONS IN THE UNITED STATES: 1984, U.S. Government Printing Office, Washington, D.C., 1986.

EXHIBIT 9

MEDIAN HOUSEHOLD INCOME BY TYPE OF HOUSEHOLD: 1984

(1984 Dollars)

Type of Household	Median Income
Total Households	$22,415
Family Households	26,433
Married-Couple Families	29,612
Wife Employed Full Time, Householder Year-Round, Full-Time Worker	40,362
Male Householder, No Wife Present	23,325
Female Householder, No Husband Present	12,803
Nonfamily Households	12,987
Householder Living Alone	11,512

Source: U.S. Bureau of the Census, Current Population Reports Series P-60, No. 151, MONEY INCOME OF HOUSEHOLDS, FAMILIES AND PERSONS IN THE UNITED STATES: 1984, U.S. Government Printing Office, Washington, D.C., 1986.

EXHIBIT 10

UNITED STATES MEDIAN FAMILY INCOME: 1950 TO 1984
(In Actual and Constant 1984 Dollars)

	Median Family Income	
Year	Actual Dollars	Constant 1984 Dollars
1950	$3,319	$14,321
1960	$5,620	$19,711
1970	$9,867	$26,394
1973	$12,051	$28,167 P
1974	$12,902	$27,175 *
1975	$13,719	$26,476 *
1976	$14,958	$27,293
1977	$16,009	$27,440
1978	$17,640	$28,085 P
1979	$19,661	$28,029
1980	$21,023	$26,500 *
1981	$22,388	$25,569 *
1982	$23,433	$25,216 *
1983	$24,549	$25,724
1984	$26,433	$26,433

	Gains in Real Income (Constant 1984 Dollars)		
Period	Number	Percent	Average Annual Gain
1950-1960	$5,390	37.6%	$539
1960-1970	$6,683	33.9%	$668
1970-1973	$1,773	6.7%	$591
1973-1975	($1,691)	-6.0%	($846)
1975-1979	$1,553	5.9%	$388
1979-1982	($2,813)	-10.0%	($938)
1982-1984	$1,217	4.8%	$609

Note: P indicates peak income year
* indicates recession year

Source: U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 151, MONEY INCOME OF HOUSEHOLDS, FAMILIES, AND PERSONS IN THE UNITED STATES: 1984, U.S. Government Printing Office, Washington, D.C., 1986.

EXHIBIT 11

OWNER AND RENTER HOUSEHOLDS
BY AGE AND TYPE, U.S. TOTAL: 1984

(Numbers in Thousands)

OWNER HOUSEHOLDS

		Family			Nonfamily	
			Other Family			
	Total	Married Couple	Male House-holder	Female House-holder	Male House-holder	Female House-holder
TOTAL	55,157	38,845	1,183	4,677	3,556	6,894
Under 25	972	617	37	69	153	96
25 to 34	9,201	7,177	192	619	852	362
35 to 44	11,441	9,035	277	1,143	606	381
45 to 54	9,648	7,586	223	929	426	484
55 to 64	10,421	7,473	209	826	508	1,406
65 and Over	13,475	6,959	244	1,092	1,014	4,166

RENTER HOUSEHOLDS

		Family			Nonfamily	
			Other Family			
	Total	Married Couple	Male House-holder	Female House-holder	Male House-holder	Female House-holder
TOTAL	30,250	11,244	847	5,201	6,194	6,764
Under 25	4,539	1,652	137	745	1,093	911
25 to 34	10,607	4,493	274	1,878	2,316	1,646
35 to 44	5,155	2,127	197	1,284	991	556
45 to 54	2,823	1,067	107	607	542	500
55 to 64	2,700	921	66	348	574	790
65 and Over	4,426	983	66	339	677	2,362

Source: U.S. Bureau of the Census, Current Population Reports, Series P-20, No. 398, HOUSEHOLD AND FAMILY CHARACTERISTICS: MARCH 1984 U.S. Government Printing Office, Washington, D.C., 1985

EXHIBIT 12

RESIDENT POPULATION OF THE UNITED STATES BY AGE: 1984

(Numbers in Thousands)

Age	Population
Under 25	40,092
25 to 34	40,840
35 to 44	30,670
45 to 54	22,349
55 to 64	22,210
65 and Over	27,985
TOTAL: 15 years and over	184,147

Source: U.S. Bureau of the Census, Current Population Reports, Series P-25, no. 952, PROJECTIONS OF THE POPULATION OF THE UNITED STATES, BY AGE, SEX, AND RACE: 1983 TO 2080 U.S. Government Printing Office, Washington, D.C., 1984

EXHIBIT 13

HEADSHIP RATES BY AGE, TYPE AND TENURE OF HOUSEHOLDS
U.S. TOTAL: 1984

OWNER HOUSEHOLDS

		Family			Nonfamily	
			Other Family			
	Total	Married Couple	Male Householder	Female Householder	Male Householder	Female Householder
Under 25	2.42	1.54	0.09	0.17	0.38	0.24
25 to 34	22.53	17.57	0.47	1.52	2.09	0.89
35 to 44	37.30	29.46	0.90	3.73	1.98	1.24
45 to 54	43.17	33.94	1.00	4.16	1.91	2.17
55 to 64	46.92	33.65	0.94	3.72	2.29	6.33
65 and Over	48.15	24.87	0.87	3.90	3.62	14.89

RENTER HOUSEHOLDS

		Family			Nonfamily	
			Other Family			
	Total	Married Couple	Male Householder	Female Householder	Male Householder	Female Householder
Under 25	11.32	4.12	0.34	1.86	2.73	2.27
25 to 34	25.97	11.00	0.67	4.60	5.67	4.03
35 to 44	16.81	6.94	0.64	4.19	3.23	1.81
45 to 54	12.63	4.77	0.48	2.72	2.43	2.24
55 to 64	12.16	4.15	0.30	1.57	2.58	3.56
65 and Over	15.82	3.51	0.24	1.21	2.42	8.44

EXHIBIT 14

RESIDENT POPULATION OF THE UNITED STATES BY AGE: 1990

(Numbers in Thousands)

Age	Population
Under 25	35,252
25 to 34	43,326
35 to 44	37,780
45 to 54	25,386
55 to 64	21,090
65 and Over	31,799
TOTAL: 15 years and over	194,632

Source: U.S. Bureau of the Census, Current Population Reports, Series P-25, no. 952, PROJECTIONS OF THE POPULATION OF THE UNITED STATES, BY AGE, SEX, AND RACE: 1983 TO 2080 U.S. Government Printing Office, Washington, D.C., 1984

EXHIBIT 15

RESIDENT POPULATION OF THE UNITED STATES BY AGE: 1995

(Numbers in Thousands)

Age	Population
Under 25	33,808
25 to 34	40,309
35 to 44	41,929
45 to 54	31,372
55 to 64	20,951
65 and Over	34,006
TOTAL: 15 years and over	202,375

Source: U.S. Bureau of the Census, Current Population Reports, Series P-25, no. 952, PROJECTIONS OF THE POPULATION OF THE UNITED STATES, BY AGE, SEX, AND RACE: 1983 TO 2080 U.S. Government Printing Office, Washington, D.C., 1984

EXHIBIT 16

RESIDENT POPULATION OF THE UNITED STATES BY AGE: 2000
(Numbers in Thousands)

Age	Population
Under 25	35,816
25 to 34	36,235
35 to 44	43,678
45 to 54	37,113
55 to 64	23,767
65 and Over	34,921
TOTAL: 15 years and over	211,530
TOTAL POPULATION	257,433

Source: U.S. Bureau of the Census, Current Population Reports, Series P-25, no. 952, PROJECTIONS OF THE POPULATION OF THE UNITED STATES, BY AGE, SEX, AND RACE: 1983 TO 2080 U.S. Government Printing Office, Washington, D.C., 1984

EXHIBIT 17

HOUSEHOLD PROJECTIONS BY AGE, TYPE AND TENURE: 1990

(Numbers in Thousands)

OWNER HOUSEHOLDS

		Family			Nonfamily	
			Other Family			
	Total	Married Couple	Male House-holder	Female House-holder	Male House-holder	Female House-holder
Under 25	855	543	33	51	135	84
25 to 34	9,761	7,514	204	557	904	384
35 to 44	14,093	11,130	341	1,408	746	469
45 to 54	10,959	8,617	253	1,055	484	550
55 to 64	9,895	7,096	198	784	482	1,335
65 and Over	15,311	7,907	277	1,241	1,152	4,734
TOTAL	60,875	42,906	1,306	5,206	3,903	7,556

RENTER HOUSEHOLDS

		Family			Nonfamily	
			Other Family			
	Total	Married Couple	Male House-holder	Female House-holder	Male House-holder	Female House-holder
Under 25	3,991	1,453	120	655	961	801
25 to 34	11,253	4,766	291	1,992	2,457	1,746
35 to 44	6,350	2,620	243	1,582	1,221	685
45 to 54	3,207	1,212	122	689	616	568
55 to 64	2,564	875	53	330	545	750
65 and Over	5,029	1,117	75	385	769	2,584
TOTAL	32,393	12,043	913	5,634	6,569	7,234

EXHIBIT 18

HOUSEHOLD PROJECTIONS BY AGE, TYPE AND TENURE: 1995

(Numbers in Thousands)

OWNER HOUSEHOLDS

		Family			Nonfamily	
			Other Family			
	Total	Married Couple	Male Householder	Female Householder	Male Householder	Female Householder
Under 25	820	520	31	58	129	81
25 to 34	9,081	7,084	190	611	841	357
35 to 44	15,641	12,352	379	1,563	828	521
45 to 54	13,543	10,649	313	1,304	598	579
55 to 64	9,830	7,043	197	779	479	1,326
65 and Over	16,374	8,456	296	1,327	1,232	5,062
TOTAL	65,290	46,110	1,406	5,642	4,108	8,027

RENTER HOUSEHOLDS

		Family			Nonfamily	
			Other Family			
	Total	Married Couple	Male Householder	Female Householder	Male Householder	Female Householder
Under 25	3,828	1,393	116	528	922	768
25 to 34	10,469	4,435	270	1,854	2,286	1,625
35 to 44	7,047	2,908	269	1,755	1,355	760
45 to 54	3,963	1,498	150	852	761	702
55 to 64	2,547	869	62	328	541	745
65 and Over	5,378	1,194	80	412	823	2,870
TOTAL	33,232	12,297	948	5,829	6,687	7,470

EXHIBIT 19

HOUSEHOLD PROJECTIONS BY AGE, TYPE AND TENURE: 2000

(Numbers in Thousands)

OWNER HOUSEHOLDS

		Family			Nonfamily	
			Other Family			
	Total	Married Couple	Male Householder	Female Householder	Male Householder	Female Householder
Under 25	868	551	33	62	137	36
25 to 34	8,164	6,368	170	549	756	321
35 to 44	16,293	12,867	394	1,628	863	543
45 to 54	16,022	12,597	370	1,543	707	804
55 to 64	11,152	7,997	224	884	544	1,505
65 and Over	16,815	8,684	304	1,363	1,265	5,199
TOTAL	69,313	49,064	1,496	6,028	4,272	8,456

RENTER HOUSEHOLDS

		Family			Nonfamily	
			Other Family			
	Total	Married Couple	Male Householder	Female Householder	Male Householder	Female Householder
Under 25	4,055	1,476	122	666	976	814
25 to 34	9,411	3,986	243	1,666	2,055	1,460
35 to 44	7,341	3,025	281	1,829	1,411	792
45 to 54	4,688	1,772	178	1,008	900	830
55 to 64	2,889	986	71	372	614	845
65 and Over	5,523	1,227	82	423	845	2,947
TOTAL	33,907	12,475	977	5,964	6,802	7,589

Representative SCHEUER. Very good, and thank you very much. That was a terrific panel.

Mr. Tucker, I was very impressed with your testimony. I had very few questions because you said the things we have all been talking about and you said them very sharply.

You do talk about the urgent need to upgrade education and you do talk about the widening shortfall in teacher supply.

Is this population group that you talked about—I'm going to ask you the same question, Chancellor Quinones—the over-65's and the college age kids who are looking for part-time work and maybe high school juniors and seniors, are they part of a possible teacher pool for upgrading the literacy skills and the job skills of the low-skilled portion of our population, this 80 percent of the new entrants into the labor force who are going to be either women, minorities, or immigrants—and I'll leave out women because that doesn't affect them—is this a talent pool?

Mr. TUCKER. Absolutely.

Representative SCHEUER. For part-time instructional resource that we ought to be looking at clearly and sharply?

Mr. TUCKER. There's no doubt about it, I think they are. The Carnegie Forum recently issued, as you know, a report called "A Nation Prepared," which lays out a whole range of proposals which deal with the problem I was describing. I think it makes clear that we aren't going to solve the problem unless we make teaching attractive to very well prepared college graduates. That's the core of it and I believe we can't address the problem satisfactorily without doing that.

But around the edges, I think the sorts of things you're talking about are not only feasible but absolutely essential.

We propose, for example, that college work-study money be expanded and used to make it possible for large numbers of college students to tutor in our elementary and secondary schools. There are lots and lots of reasons to do that which will benefit not only the kids in our schools but also those college kids.

It is, I think, particularly important for minority college students to be tutoring minority kids in our school systems because of the kind of role models that they will provide, the sorts of things that Mr. Quinones was just talking about and you talked about. It's very important for those kids to see kids like themselves who are well educated and making it, and I think a well-run program of that kind--that is, the use of college work-study money and related kinds of Government subsidy programs—to get those kids into our schools is very important.

Carnegie Corp. is working with Frank Pace and his colleagues on what I think could be a very exciting program to get retired business executives and other people from private firms and from the military into our schools.

The idea is very simple. The firm or the military would make it possible for people in mid-career who had identified teaching as something they wanted to do to get fully trained while in the military or in the firm as teachers—fully credentialed—and to provide early retirement for them, making it possible for them to go into the schools early, working full time as fully qualified teachers.

For the folks from private industry what this would mean is a win-win situation for everybody concerned. The firm essentially would provide a somewhat lower rate of retirement pay than otherwise, but the person going into teaching would have both the full-time teaching salary and the retirement from the firm.

The school district, however, would only have to pay a beginning teacher salary to somebody who was in fact very highly qualified, many of them with strong math and science backgrounds.

Representative SCHEUER. And with real life experience.

Mr. TUCKER. With all kinds of life experience to offer these kids. It would be just a terribly important—and, I think, productive—idea. The cost to everybody would be very low. The benefits to each one of the partners would be very high. I just can't imagine a more winning proposal. That is now in the feasibility stage. We hope within a year will be a substantial national program.

If I might, by the way, while I have the microphone, you asked a couple of questions earlier in the day that I just would like to comment on.

There is a program known as the Boston Compact which did exactly what you're talking about and still does. This is to say, it's a compact of employers in the Boston area working with the school district. The idea is very simple.

The employers say essentially if kids can meet these kinds of requirements they will be the first in our queue of possible employees. The idea in the beginning was that those requirements would be essentially educational requirements. What they discovered was that the most important thing was that the kids actually come to school. So the first set of requirements had only to do with attendance and they said, in effect, if you have these kinds of attendance records you're going to get the first shot at jobs. The effect on those kids has been very impressive.

Lots of districts—I believe New York is among them—have expressed interest in the last 2 or 3 years in the basic ideas in the Boston Compact across the country.

I think you're absolutely right. There is all the evidence in the world from the Job Corps camps on that if kids who the schools have failed and who are very badly educated see that there might be a job at the end of the line, it makes an enormous difference in their motivation and there is one reason why the basic ideas in the Boston Compact can't be adopted by every urban school district in the country.

It is not going to be easy, but I think the effects were going to be very impressive.

Representative SCHEUER. Are they using a computer?

Mr. TUCKER. No, it's not a job-matching program at all. It starts from your premise that kids are going to be more motivated to learn if they believe that there's a job at the end of the line.

You see the basic problem is this——

Representative SCHEUER. And who promises them the job? What are the conditions?

Mr. TUCKER. The employers promise a job. In the case of Boston, it's not strictly speaking a promise of a job. As I understand it, it is a promise that you go to the head of the queue. You get the first shot at the jobs that are available. It's a little different from the promise of a job, but evidently sufficient so that a lot of kids are much more motivated than they were before. But it's not a job-matching program.

The problem is this. In recent years, our high school diplomas have come to mean next to nothing. High school diplomas essentially do not necessarily mean that you can even read and write. It's not just the employers who know this. The kids have figured out that the kids who get a diploma have a job future almost identical to those who don't. So from their point of view, there's nothing in it to go through to the end to get the diploma because the rewards are no different from those who don't get a diploma.

The only way to get around that in effect is for the employers to say, okay, we don't care whether you have a diploma, but if you have "a, b, c, and d," if you can do these things, you're going to get a first chance at a job. If you can say that and make it stick, the kids pay attention and appear to be a good deal more motivated than they are now under the prevailing circumstances.

Representative SCHEUER. Now when you said on the last page of your prepared statement that only a fundamental restructuring of our education institutions can meet the need you've described, what did you mean by that?

Mr. TUCKER. I meants lots of things. The Carnegie Report lays out a whole set of proposals to restructure our schools. I might say two or three among the most important things.

Right now schools are so designed, and they have been for a very long time, so that there is virtually no connection between the rewards that teachers and other school professionals get and what we want for kids. As a matter of fact, in many respects, the better the kids do, the worse off the schools are.

If any American corporation functioned in an environment like that it would be out of business in weeks, but it is the way the schools are run.

Representative SCHEUER. Excuse me. I have to interrupt you because I've got to leave now for the swearing in. We'll have the film now and when the film is over I'll be back and I'm going to ask you, that do you mean by saying the better the kids do, the worse the schools are?

Mr. TUCKER. I'd be happy to tell you.

Representative SCHEUER. OK.

[Presentation of video tape produced by the National Alliance of Business.]

Representative SCHEUER. Well, let me ask all of you a question. We have had absolutely brilliant testimony this morning on the need to upgrade the quality of our work force and eliminate this whole stream of young people who are entering into this subgroup of illiteracy and poverty that is growing in our society, a real cancer in our polity and in our economic vitality and strength and our ability to compete as effective actors on the global stage in global competition.

Let's just do a little free swinging. Here we have an outstanding representative of industry here with Mr. Kolberg. Mr. Tucker, you've given us some brilliant thoughts.

How do we approach the problem of teenage illiteracy, kids who don't learn to read, write, and count at school and who drop out of school and maybe dabble on the margins of the work force. They're never really truly in the work force. Many of them will never have what you would call a solid 9-to-5 job in their lives. How do we approach that group and the already with us group of adult illiterates, 23 million Americans, who can't read an instruction sheet, who can't read a menu in a diner?

Mr. Kolberg, you might tell us how industry fits in, how corporations can perhaps provide some reading, writing, and counting skills at the workplace. What has the experience been and how do you think the talent in corporate America can address this problem?

I know there's a great deal of commitment to do it. You're symbolic of that. What kind of funding assistance will you need from the Federal Government? This would be some kind of a partnership—or maybe it wouldn't be. Do you need any Federal or State assistance? What's the nature of the assistance and the support that you need?

Mr. Tucker, you might tell us how you think our Nation should approach this awful, burning, anxiety-ridden problem that is going to tear our economy and our society apart in the years to come.

Mr. Tucker first.

Mr. TUCKER. I would be happy to do that. This report lays out a series of ideas. It's a set of ideas for restructuring our country's schools. The Assistant Secretary said sitting here this morning that he didn't think that a few new programs would solve the problem and I agree with what he said.

I think it's really a problem of institutional structure. The kids that you're talking about, those at the very bottom of the heap, are the most obvious problem of a deeply flawed system and we have to fix the whole thing. Those kids are in terribly deep trouble. So are we as a society, as a consequence.

But it's also true that our schools are failing a lot of bright kids from fairly well-to-do families that are turned off by our schools and don't make the effort either. We are losing talent out of every seam of this system.

What this report says basically is that there is no substitute for having the teachers that we need in our schools. There is no substitute for having our fair share of the country's total talent pool of bright and able people teaching our kids. Machinery won't teach our kids. Administrators won't teach our kids. Only teachers teach the kids.

Representative SCHEUER. Could computers take a major portion of the load?

Mr. TUCKER. Computers can play a part but they cannot teach. The interesting thing about computers is that if we have very bright and able teachers, computers will help those teachers do the job they need to do with kids.

In response specifically to that question, let me just illustrate the point.

Computers cannot teach kids to write. However, if kids have lots of computers with word processing software in them, they will have a chance to write. You can't learn how to write without writing. Nobody has ever learned how to write without actually doing a lot of writing. But the other thing that's essential is to have people working with you as you try to write who are themselves good writers and can critique what you wrote. And that's illustrative of the whole thing.

What we know about using computers as teachers to help kids learn now to write is that access to word processors helps a lot because it makes the act of writing an awful lot easier. Kids can write a lot more. They also have to have teachers who themselves can write well and are good critics of kids' writing.

You put the two together and you have a very powerful combination. We could be producing average sixth graders who write well. There's no reason why not. We know it's perfectly possible.

The biggest limiting factor is not the computers. It's the teachers. We are pulling our teachers now off the bottom of the barrel. If we don't solve that problem, it doesn't matter how many computers we have.

Representative SCHEUER. Do you want to elaborate on that? What is the bottom of the barrel?

Mr. TUCKER. If you look at—I don't care what measure you use—the research essentially shows this: that among the kids going to college these days, those going into teaching are the least well qualified by all the standard measures that we use. Those college students who actually finish a program of teacher education are less well qualified than those who go into programs other than teacher education.

Representative SCHEUER. In other words, the higher quality kids who enter teacher education get syphoned off into other fields.

Mr. TUCKER. Yes, that's correct.

Representative SCHEUER. Like what?

Mr. TUCKER. Like almost anything.

Representative SCHEUER. If they're math and science teachers they could take corporate jobs I suppose.

Mr. TUCKER. Absolutely, and they do.

Representative SCHEUER. But if they're English literature teachers, if they're social studies teachers, where would they go?

Mr. TUCKER. They can go and write job manuals and training manuals. There are lots of jobs for people who can write well in this society.

Representative SCHEUER. They get waylaid?

Mr. TUCKER. Yes, sir, they do. And it's worse than that. Among the people who actually graduate from teacher education institutions, not all of them go into teaching. It is the less well qualified who actually go into teaching. Among those who go into teaching, if you look 5 years later, as the researchers have done, it is the least well qualified who are there. Within that 5 year period, the more qualified have left. So at each point in the pipeline, it is the least well qualified that we're getting.

About 47 percent of the kids now going into our teacher education programs in the colleges have come out of the general and vocational curriculums of our high schools, not out of the academic curriculums. Those are not curriculums intended to prepare people even to go to college. That's who our teaching force is increasingly made up of.

There is no way, in our opinion, that you can solve the problems we were talking about this morning, whether for the disadvantaged kids who need the help the most or for anybody else, unless we have highly qualified teachers in the schools.

And to just very quickly tell you what in a long and complex report this task force suggested, it is the following: We have to pay people competitively. That's number one and it's going to be very expensive.

Point two, for the people who alternatively could become architects, engineers, accountants, doctors, and lawyers and all the others, we're going to have to provide them with the same kind of discretion in the work that they do that all these other folks have. We can't tell them every minute of the day what to do and how to do it, which is what we do to teachers. We have to provide them with a measure of professional autonomy.

That would mean a revolution in education policy. It would mean that much of the weight of the bureaucracy would have to go away.

The third point is that nobody is going to pay teachers a lot more or give them that kind of autonomy unless they think they're qualified. We have proposed a national board of professional teaching standards to issue certificates on a national scale to highly qualified teachers—create a real market for quality teachers in this country.

The fourth point is, very simply, it doesn't do any good to have a high standard if nobody is going to be able to meet it. In order to do that, we have to do something about teacher education. The quality of the education our teachers get is very poor on balance. We have recommended the abolition of the undergraduate teacher program, no more education degrees at the undergraduate level, creating a master in the teaching program so that our teachers are properly educated at the graduate level.

Fifth, we've said one of the biggest problems we face is the drought in minority teachers in this country. The number of minority kids are going up, the number of minority teachers are going down. To solve that problem gets back to——

Representative SCHEUER. What does that do?

Mr. TUCKER. To our schools?

Representative SCHEUER. No. Why is the number of minority teachers going down? I have the feeling that it is because talented minority kids who can read, write, and count and think logically are in terrific demand by the professions.

Mr. TUCKER. This is absolutely right.

Representative SCHEUER. And they have all kinds of options and alternatives just as women do now that didn't exist a generation ago.

Mr. TUCKER. The number of minority kids who get through our pipeline and out of college with strong academic records is fairly small and that group of kids have terrific—they are not considering going into teaching for all the reasons that you mentioned.

So the folks who are considering going into teaching from minority backgrounds are those who are not getting through college with strong academic records. They are the ones with few alternatives. They are the ones who are failing the new entrance examination for teachers at fairly large rates because they don't have the literacy that is required. Most of those tests are actually tests of reading comprehension and almost nothing more, and they can't pass those because they have just barely gotten a college degree.

So you're absolutely right. It's not a recruiting problem. To solve the minority teacher problem what we have to do is find a way to get many more minority kids through high school with a strong school record and into college and through college with a strong academic record.

If we had in our schools in 1992 a proportion of minority teachers to all teachers roughly equivalent to the proportion of minority kids to all kids, we would have to have about 50,000 new minority teachers a year in 1992. We're now graduating——

Representative SCHEUER. And that number would go up sharply as the percentage of minority kids has been extrapolated to increase substantially.

Mr. TUCKER. That's right. The only way we can do that is to greatly improve the education in school of minority kids so there will be a big enough pool to recruit from. And this is a problem which is I think absolutely relevant to the Federal role in education. We have got to not simply maintain but expand our commitment at the Federal level to the programs for the disadvantaged. That is central to this issue. There are a whole set of programs commonly called the TRIO programs and others that are like them which essentially reach down into the schools—junior high school level—identify minority kids of ability, provide them with a whole set of support systems so that they can make it through school and into college with a strong enough record to get into selective institutions. Those programs are hanging on by their teeth right now. They are underfunded, much too small to do the job, but they have shown us that the job can be done.

We need to greatly expand those programs. There's a comparable set of programs at work at the college level. We know how to improve retention rates for minorities in colleges. We just aren't putting the money into it that we need to put into it.

If our recommendations and others like them are actually implemented and the professional education of teachers goes on at the graduate instead of the undergraduate level, we are going to need Federal programs of assistance specifically for minorities to provide fellowships so that those students will go into graduate school in teaching rather than business or something else. It's going to be terribly important to have those kinds of programs of Federal support. All that is laid out in this report.

The last point is this, and it was the one I was making before you left. We have to be much more productive in the way we use teachers in the future than we have been in the past. The waste is really enormous in our schools.

I say that because we must recognize—and this report does—that to implement the recommendations I just mentioned to you is going to cost this country by our estimates some $48 billion more per year than we're now spending on education 10 years from now. That's a lot of money. I would hope that some significant part of it ends up coming from the Federal Government. If it doesn't, we're going to have to find it elsewhere.

But even then, we're not going to make it unless we use the resources that are available much more efficiently than we are now.

If any school superintendent in this country was able to provide in 10 years the kind and quality of education to the students in that school system that he now provides in 12 and then said at the end of 10 years, "You can go now," he would be fired because he would lose one-sixth of his State funds.

It does not pay to be more efficient in our schools. Schoolteachers in this country who work very hard long into the night on behalf of their kids are rewarded no better than the schoolteachers who work to the rule.

Our programs in this country for the disadvantaged have a common feature which is very debilitating and it is this: it pays school districts these days to identify kids as learning disabled. They get more money. However, if they are able to deal with the learning disabled kid in a way that they are no longer learning disabled, they will lose that money. We have one program after another that has that feature. It doesn't pay to improve the education of those kids. It doesn't pay to be more efficient. It doesn't pay a school district to figure out how to redeploy administrative money to turn it into instructional funds and it doesn't pay for a schoolteacher to work way into the night.

Whether you talk about the superintendent, the school board, the middle level staff, the principal or the teacher, it doesn't pay to do a better job. And we have got to change that. We have somehow got to be able to find ways to connect the rewards of the professionals in the system to improve student performance.

That doesn't mean we won't need more money. We're going to need lots more money to do the job that has to be done, whatever else we do, but we're not going to make it unless we redesign the structure of the system so that, just as in other areas of our public and business life, we connect rewards to what we want out of the system.

All of these things, in our view, have to be pursued more or less at once if we're going to make it. They are important for everybody, but they are no more important for anyone than for the poor kids, the disadvantaged kids, and the minority kids in our system who are more dependent on the schools than is anybody else.

Representative SCHEUER. Well, you're talking about $45 or $50 billion expenditure annually a decade from now.

Mr. TUCKER. That's correct.

Representative SCHEUER. Who's going to contribute? Where is it going to come from? I'm going to ask Mr. Kolberg the same question. Maybe the business community will pick up a share of the load.

Mr. TUCKER. I think the business community absolutely has to provide the political support that's going to be necessary. Otherwise, it won't happen.

What we did in analyzing that fiscal burden, because it is large, was the following. It turns out that if the economy grows during the next 10 years at the same rate that it has in the last 15 years and the public elementary and secondary schools have the same share of the gross national product in 10 years that they do today, we will cover that $48 billion cost.

However, the fiscal capacity around this country is not equal everywhere. There are some cities, some towns, some States, and some regions which are in very bad shape.

Right now, as you know, those States that depend upon petroleum, those States that depend on mineral resources, those States that depend on forest products, and those States that depend on the export of agricultural products, are in real trouble and they probably will be for years.

And when I go and talk to their governors and legislatures about these ideas they say, "You must be crazy. We're going to have trouble staying where we are."

I, for one, believe that in addition to the things I was talking about before—support for disadvantaged kids, minority teachers, and all of that—the Federal Government will have to come to grips with problems of interstate equity, interstate finance equity, if we're going to make it.

It is no longer the case that what happens to the education of kids in one town or one district or even one State is only the business of that town, district, or State. In this country——

Representative SCHEUER. It never really was.

Mr. TUCKER. It never really was but it's much less true now than ever. If we have 10, 15, or 20 States in the United States which cannot afford to educate their kids the way they have to be educated, the entire country is going to be in real trouble.

Representative SCHEUER. Especially in New York City where I come from, because parents leave from all of these States that give their kids a marginal or submarginal education and they come up to New York as the land of opportunity to get a better quality of life, a better education, a better job.

Mr. TUCKER. Right.

Representative SCHEUER. Well, now in your analysis of the return on this investment, have you done a sort of cost-benefit analysis?

We have computed the cost to our country of adult illiteracy. Could you tell us, considering adult illiteracy has a terrible burden, a terrible cost on our country, and the benefit of these literacy programs would be the benefits of having a literate, productive work force that can help us compete effectively in global competition, have you ever done a sophisticated analysis of what it would take to bring our labor force up to the standards necessary to enable us to compete and, in effect, that would be an investment, and what the return would be, a sort of a cost-benefit analysis applied to an investment in teenage and adult literacy, what the returns to the country would be and what the returns to the business community would be?

Mr. TUCKER. I have to answer your question in part. There are very competent analyses available now of the social costs in terms of all forms of dependency and crime in effect on the system that we're now running. And those costs obviously run into the billions of dollars. I would be happy to provide the subcommittee with reports that I'm aware of that I think make the case brilliantly.

Representative SCHEUER. Please do. We would appreciate that.

Mr. TUCKER. That doesn't even get to the economic argument. It is certainly true, if you keep the argument now just within education, that the costs of remediation at the postsecondary level are enormous. A large part of our higher education budget in this country, public and private, is the cost of fixing what should have been done but wasn't at the elementary and secondary level. That's a small part of the total cost of what you're talking about.

The biggest cost, though, I think is one that we will never see because it's incalculable. Every single day in this country employers and their managers are making decisions. They are making decisions about what business to be in, what markets to go after, what products to make, what services to render.

Representative SCHEUER. And what jobs to export.

Mr. TUCKER. And that's the next thing, where to make products and services that they choose to make. And that's not a decision that's made by the President. That's not a decision that's made by the Speaker of the House in Arkansas. It's a decision that's made by thousands and thousands of people every day in this country.

Those decisions are absolutely affected by the views that each one of those managers has of the capacity of the people he or she could use to market, to make, to sell, to transport.

In the end, we may find out we have no decisions left to make because they have all been made for us by people who themselves have made an estimate of the cost and the effectiveness of the human resources they have to work with and decided that if they're going to manufacture it they will do it in South Korea or in Taiwan or in Thailand or if they're going to make the service.

A lot of people think that the issue just has to do with products, with things you make. This is absolutely wrong. Services are now being exported in much the same way that the making of products are.

People have lots of forms to fill out. Some companies now put them in airplanes and they ship them down to Bermuda and Mexico. People who have the same literacy skills we have but will work for a fraction of the cost enter that data into a computer data base. It gets put on a tape and sent back by the next plane to some computer here.

We have firms in the United States, very large ones—I won't mention their names—who are employing Chinese engineers. Those Chinese engineers work in Taiwan. They communicate with the firm by telecommunications links.

From the top of the education spectrum to the bottom, if the labor can be gotten more cheaply elsewhere or in the case of engineers gotten at all, firms will go outside the United States.

The challenge is really enormous, but the point that I'm making here is that the cost-benefit equation is fundamentally incalculable because it rests really on some estimate of what the economic health of this country could and should be 5, 10, 15 years from now if we had our ducks in order, if in short we had the kind of quality of labor force that would make possible a truly healthy and productive economy.

For me, that's the real benchmark. You have to envision an economy that you want to have and then ask yourself in what way are we short on having the resources needed to get there. That's the real objective.

Representative **Scheuer**. And do we want to sustain our current standard of living or do we want to see it gradually ebb and ebb?

Mr. **Tucker**. Absolutely right. That is the question.

Representative **Scheuer**. All right. Mr. Kolberg, how do you see the industrial leadership, the productive business leadership of our country contributing to this problem? What is the business role and how does it interface with government at the Federal, State, and city level in organizing programs, in funding programs? How do we use the workplace as an alternative to the schools where the kids have spent time in school without the learning process having occurred and having turned off kids and alienated them? What is the role of the corporate sector here?

Mr. **Kolberg**. As Mr. Tucker mentioned, the first responsibility of all enterprises is to stay alive and stay competitive.

And although at times in this country we are want to blame business people for making decisions to go offshore, exporting jobs, or do a variety of things in order to stay competitive, that's what they must do.

Representative **Scheuer**. They're acting logically.

Mr. **Kolberg**. There are some abuses at times and we try to correct those as a society, but they are acting I think very responsibly and that's always point No. 1. We need to expect the business sector to stay competitive and to do those things that will keep them competitive. And I think at least so far we can count on that happening.

Representative **Scheuer**. Well, from the point of view of the economy of the firm, they are acting logically. How do we change this swirling vortex of economic factors so from the point of view of the economy of the firm they don't export jobs; they hire Americans who have increasingly improved skills to manufacture products here on a cost basis that will enable them to compete abroad?

Mr. **Kolberg**. Well, let me give you a concerted example.

Representative **Scheuer**. Nobody is suggesting that business act to commit suicide.

Mr. **Kolberg**. No, not at all. Again, let me expand on the point Mr. Tucker was making.

There is an unnamed State in the Southern part of the United States which has a dropout rate of 49 percent. Businesses that operate in that State need to take actions to upgrade people in order to fill their skill requirements or not locate there at all. I can name the State and I can name countless businesses that have looked at that State and have looked at the human resources—in other words, the skill endowment of the work force in that State--and have consciously chosen not to locate in that State.

Representative **Scheuer**. What is the State?

Mr. **Kolberg**. Mississippi has the highest dropout rate in the United States and continues to even though they now are beginning to understand the problems.

Chairman John Ong, the CEO of B. F. Goodrich, has said publicly to his State of Ohio and many other States that the key location decision is the quality of the people that are in the State.

Representative **Scheuer**. For this company?

Mr. **Kolberg**. What he's saying is related to his company and he's giving advice to State authorities, that business location decisions are first and foremost influenced these days by the quality of the labor force and the quality of the education system. Economic development requires education and providing skills for people there.

Representative SCHEUER. I don't think that's changed.

Mr. KOLBERG. North Carolina, South Carolina, many other States have understood this and have consciously built voc-tech skill centers, community colleges, upgraded their schools in order to take care of that.

Essentially, that's what we've been talking about all morning, that in every way the human resource factor is becoming more and more important in our society. If you look at it in a negative sense, we can no longer afford—I hate these words but I think it's dramatic—we can no longer afford as a society to drag behind us 15 to 25 percent of our society who are ill-educated and unable, therefore, to contribute to the welfare of the society and still stay competitive in a very competitive world. We're going to have to face that and do something about it.

Now what is business' responsibility? As I said, most businesses—certainly the major ones—already do a lot of in-house training. John Clendenin, our incoming chairman and CEO of Bell South, talked about Bell South Institute. The Bell South Institute is, among other things, a remedial education institution that tries to bring people up to the standards that that company needs in order to employ them, and you find that right across the board. You heard Secretary Brock say on the tape that we're spending $30 to $40 to $50 billion—we don't know how much we're actually spending—for training within the workplace. We're spending a tremendous amount of time and effort in remedial education which could be better spent.

Business has a role, it seems to me, in getting much more active with the public sector. I haven't had a chance to talk about partnership and private industry councils and all that that means, but the leadership in the business community is more and more saying that we need to be partners with the public sector right across the board at every level of government in order to take care of this problem.

Again, Mr. Tucker was talking about the Boston Compact. We have looked around for a strategy to involve the business community at large with improving the public schools. The Boston Compact seems to us to be the sensible strategy, and therefore, we have gotten some grant money to try to replicate that experience in a number of other cities.

Again, it's a whole question of incentives; 300 or 400 businesses in Boston make available to the schools a variety of resources. But most importantly, the quid pro quo is: if better qualified and more kids graduate from the Boston public schools, we will give them first choice at our jobs in Boston. That's the incentive approach that's always worked in this society. We think that may well be the key. We want to see that happen.

We just say over and over that business needs to get much more involved not only in its own enterprise, which it will—it will find people, it will train them if it has to—but also to get involved in the fabric of the society to deal with this human resource question more effectively.

Representative SCHEUER. Several times this morning we've heard about this Boston enterprise. What was the magic that put it together in Boston?

Mr. KOLBERG. There is no magic, Congressman, in any of this.

Representative SCHEUER. What was the leadership?

Mr. KOLBERG. They have been working at this for many years on the private side.

Representative SCHEUER. Did their Governor play a leading role?

Mr. KOLBERG. Part of it. On the private side, the Private Industry Council in Boston—I'm sure you're aware of those bodies under the Job Training Partnership Act—has been one of the most effective and has included in its membership the business elite in that community.

Through the Private Industry Council, the business community got together and went to the public school system and over time—this has now been going on 5 or 6 years—worked out a quid pro quo where changes in the public school system could be encouraged and helped along by these 400 businesses. Again, it's a long-term strategy.

The kinds of problems that we've been talking about this morning are endemic to our society. There are home problems and there are cultural problems and there are drug problems and there are teenage pregnancy problems—a variety of things that are going to take more than a quick fix.

Representative SCHEUER. The problems are endemic in our urban society and I suppose in our rural society too, but certainly the problems found in Boston would be typical of big city problems. What was unique about the successful way? What was the chemistry that helped Boston come up with a program that had unusual components and that really achieved success?

Mr. TUCKER. Very good people.

Mr. KOLBERG. They had the right people on the Private Industry Council. They had a very good school superintendent—who is now the superintendent out here in Fairfax County—who was open, ready to change, and ready to work with the business community. They had a city government that pushed that along and was very cooperative in all that. Maybe the situation got bad enough that it was clear, as it is in many urban communities, that something needed to be done.

Those particular commodities are going to be different in every community. If you go to Cincinnati, its problems are totally different.

Representative SCHEUER. Totally different problems in Cincinnati? They didn't have problems with dropoutism?

Mr. KOLBERG. No, I don't mean the problem in that sense. The quality of the public and private institutions and the people vary. You're looking for those ingredients that lead to success.

Representative SCHEUER. I'm looking at a formula that we can replicate.

Mr. KOLBERG. We're not sure we have one but we want to try. We see it working in Boston and we can identify those things in Boston that we think have made the difference and we want to try to bring some Boston people, business people particularly, to other communities and say, "Here's what we did and here's how we did it. You adapt it and make it a Cincinnati solution and a Cincinnati Compact, but these are the kinds of things that worked for us."

The point we're making is that rather than doing this business by business, somehow we need to get larger groupings and a community strategy. We're now beginning—it's only the beginning—in some 40 States to try to improve the schools. Rather than taking a retail approach to this very large problem, we've got to figure out broader strategies that work and try them out.

Representative SCHEUER. If it's a question of business leadership, cities like New York, Chicago, Dallas, Los Angeles, San Francisco—they have dynamic, throbbing business leadership, creative business leadership in all these cities. Why can't this approach that has worked in Boston be replicated? Why couldn't we replicate it next year in New York?

Mr. KOLBERG. I think it could be, but the first thing you have to do is—and what this hearing is all about today—try to educate people on the nature of the problems, how serious they are, and the kinds of things that really need to be done as a society—not business, not the public institutions—but the whole society trying to work together to understand the competitive situation we're in.

It seems to me the role of government in the 1980's and 1990's, particularly the Federal Government, is not to provide new programs and billions more dollars. It's a leadership question. Maybe some more money, but there isn't going to be that much more. You grapple with Gramm-Rudman every day. There isn't going to be that much more Federal dollars, and yet this problem is with us and, as Mr. Tucker said, it's going to take leaderhip on your part and others to convince the whole society that more tax dollars are needed. Certainly the business people need to be convinced.

We're talking about education and that's a public institution. The Committee for Economic Development report, like your report, said an additional $30 to $40 billion will need to be spent in order to begin to get at the kinds of problems in the public schools.

Representative SCHEUER. There is a more or less emerging consensus on the order of magnitude of the funds that will be needed.

Mr. KOLBERG. I would say that's the case, yes.

Representative SCHEUER. You know the Joint Economic Committee issued a report which was published last Saturday in the New York Times and the Washington Post that described the changes that have taken place in the distribution of income in this country.

Only one group went up in its percentage share of the national wealth, and that is the one-half of 1 percent of wealthiest Americans whose average family income went up, if I recall, from about $3.5 million to $8.85 million—from a little over $3 million to almost $9 million in 20 years. And their share of the national wealth went up from about 25 percent to about 35 percent.

Now this doesn't indicate that the ultrarich in our country have reached the maximum point of being able to endure taxes. This indicates to me that maybe there's a little give there. What's the maximum tax rate in the Senate bill and in the House bill—27 percent. You know, for years we had comparatively moderately circumstanced people paying in the top brackets 50 percent.

I don't understand why we have 30,000 people who are making a quarter of a million dollars or more who pay less than 5 percent in taxes and why we have 3,000 people making a million dollars or more who pay no taxes whatsoever. It seems to me that—and maybe I'm a voice crying in the wind and maybe I'm saying this because I have neither a Democratic primary this year nor do I have a Republican opponent—but we ought to raise taxes, especially on the ultrarich. And it's not enough for us to say that we ought to be spending more money but it just isn't going to be around. I think our country has to come to its senses and come to a value judgment that there are some things that are worth paying for, and one of them is a productive citizenry, a productive, competent citizenry that can enable us to continue trading successfully in global commerce, will enable us to continue our present quality of life.

We have to come to the conclusion that there are some things that it's worth paying to avoid, and that is the alienation and the sadness, the lashing out, the potential violence, the figurative bloodletting it's going to take in our society as we see the emergence over the next decade or two of a larger and larger subgroup in our society of young kids who have no reading skills, no writing skills, no counting skills, and no future in the job market. Most of those kids will never, unless we intervene massively, as I hear it from all of you—will never have a normal 9-to-5 job of any substance and of any continuity that offers them hope of positive, meaningful participation in the American way of life, in our economy, in our society.

We have got to come to the conclusion that there are some things so awful and so antithetical to every value that this country has stood for that it's paying to avoid, and some things so good and so satisfying and so consistent with all the values that our country has stood for, from our beginning Judeo-Christian ethic, that these things are worth paying for.

We must have one of the lowest tax rates for the ultrarich of any country on earth and for the life of me, for our Chief Executive to be boasting that we have the lowest corporate tax rates and the lowest individual tax rates in a half a century—that's a true statement—while at the same time we're facing this appalling need, this terrible moral and ethical challenge to our country, the need to ingest $50 billion in our educational program, I find that hard to understand. Our President is a decent man. He shares most of the values we share. How can we decide we're not willing to pay for an education system that will make Americans productive and successful and preserve our standard of life and the values that we hold dear and to avoid the awful painful race pregnant divisions without our society between the haves and the havenots, with the havenots growing in numbers, growing in alienation, in bitterness and resentment, and how they will ultimately react to that situation no one can predict.

I think we simply have to jolt this country out of its complacency and we have to decide there are some things worth paying for and educating our young people and making our young people literate and making the 23 million adults who are illiterate competent and productive is worth paying for. Yes, Mr. Tucker.

Mr. TUCKER. There is I think a funny attitude toward investment in this country. The middle class grew rich in this country compared to that of most other countries because we have a system which is essentially founded on investing in machinery; that's what it means to invest in this country.

We invested in machinery from the end of the last century through most of the first half of this century which was intended to be run by people with relatively simple skills. That's how it was designed and that's what the mass production economy is based on.

Investment is capital investment. Capital investment is in plant and equipment. Essentially capital investment is intended to replace labor. That's how we've improved productivity for at least the last 70 or 80 years in this country and it is precisely what other countries, like the Pacific Basin countries, can do now. They beat us at that game because their labor is cheaper than ours and everything else is the same. They have access to the same capital and the same technology.

Representative SCHEUER. Their labor is probably more skilled, more literate.

Mr. TUCKER. It is at least as skilled and at least as literate. Probably in many cases, more of both. That's correct.

Representative SCHEUER. They are certainly more skilled and more literate than this bottom 20 percent that you're talking about.

Mr. TUCKER. No question about that.

Representative SCHEUER. And we're talking about that bottom 20 percent as an emerging subgroup in our society and what we're saying is that jobs for those people are going to be disappearing from the American landscape.

Mr. TUCKER. That's true.

Representative SCHEUER. Because the Asians are far more skilled, far more literate, far more productive and will work very much more intensively and very much cheaper than this 20 percent of our population is willing to work for even without their skills.

Mr. TUCKER. But even if you set aside the growing underclass for a moment and ask yourself the question: What on a world scale will justify our wage differentials—we've left aside the underclass—the only answer it seems to me is that we will have to have a much better educated work force than they and a work force which is backed up by the most advanced machinery available anywhere in the world.

And if you take that seriously, then what you're saying is no longer will machinery displace people; what machinery will do is make highly capable people much more productive than they would otherwise be. And that is a formula for vastly increased investment per American than we've ever seen before because it's going to require much greater investment in each person and much greater investment in the machinery that's backing up that person.

And I don't believe that we are going to be able to make it in that environment unless we totally recast our tax structure so that it is extremely investment oriented and it seems to me we're going to have to start taxing consumption; we are going to have to change our investment policies to parallel those of some of our competitors, in exactly the ways that I'm suggesting.

Representative SCHEUER. I couldn't agree with you more. We not only have to make our tax structure investment oriented, but investment-specific.

Mr. TUCKER. Yes, yes.

Representative SCHEUER. Now for many, many years we have had a tax structure that gave the so-called tax packagers a license to steal. I should know. I was one of them until I came to Congress. I developed large-scale real estate projects and I could show an investor in my projects that if they were in the 50 percent tax brackets they would get their investment out before the first tenant moved in, whether it was an apartment house, an office building or a hotel. Before it was tenanted, by the end of the construction loan period, from the tax deductions during the construction loan period, the interest deductions, the depreciation, they would get their investment out before the building was tenanted. Now that is absolutely obscene. Thank goodness, we're doing away with most of that.

What we have to do is have a tax system that is investment oriented but target the investment incentives to the industrial sector.

Mr. TUCKER. Productive capacity.

Representative SCHEUER. Productive capacity. Why should they have given it to real estate and let me spend the best productive years of my life building apartments, hotels, office buildings, shopping centers? These things weren't in competition with foreign competitors. They were in a little competition with themselves.

But our steel industry, our high tech industry, our whole productive smokestack industry, they're in the most bitter kind of competition with foreigners, this whole incredible industrial explosion that's taken place in Asia. There, the competition is real. There, the competition is intense. There, the competition in many cases is government directed, government fueled, government supported, government financed, government planning—a whole conjuries of government aids and supports and encouragement.

Mr. KOLBERG. Congressman, it seems to me that the challenge to this society, however, is not from the federal tax structure, although I agree with you that that could be changed.

The $40 or $50 billion, if we agree on that order of magnitude in the short run, is really going to come from the State and local level. Certainly, I'm not advocating that any more than 6, 7, 8, 9, or 10 percent from the Federal Government. This is a State and local responsibility. It's going to have to be voted by voters at the local level by and large.

Our jobs, it seems to me, is to convince most of the thinking Americans that it's worth doing that.

Representative SCHEUER. Well, how are they going to do that?

Mr. KOLBERG. It's a challenge. If the Federal Government doesn't provide the money and doesn't provide the programs, how can it provide the education and leadership so that the people, whether they're business leaders or government leaders at all levels of our society, act in the best interest of the society as a whole. That's something new for us.

Except in wartime, we have never been challenged in quite this way. It is going to take action not of the Federal Government, but of the Federal Government in a new leadership role saying to Governors, "Here's the problem and here's your part," not directing but educating.

Representative SCHEUER. But, Mr. Kolberg, we're up to the problem that you identified, which is the vast disparity of the ability of States and local communities to make these kind of investments.

Mr. KOLBERG. I agree.

Representative SCHEUER. You cited the State of Mississippi. How is the State of Mississippi out of its own resources, its pitifully low tax base, going to provide the support for its education system that New York and California and Massachusetts and Illinois can provide out of their tax base?

Mr. KOLBERG. I would point out to you, Congressman, that Mississippi is not the poorest State in the United States. That's the way those people in that State have chosen to spend their money. If you look at my home State of South Dakota, it's not any richer than Mississippi, but over time the emphasis in the Dakotas and Minnesota and places like that on education and quality has been such that dropout rates are 10, 15, or 20 percent.

Representative Scheuer, the solution is not to tax people with large Federal taxes and then redistribute the money, although some of that may be required.

Basically, though, it's trying to get across to the leadership in the cities and towns and the States what this national challenge is and what their role could be. And certainly it extends to firms as well. Every major firm in the United States and certainly all the minor ones need to be educated on what this problem is, and I think over time that will happen.

Although we've talked pessimistically this morning, I'm really optimistic about this. I think our society has coped with challenges of a similar kind in the past. Most of our ancestors have moved off the farm into the factory and into the cities. We've coped with all kinds of challenges that at the time seemed insurmountable. We managed somehow. We're a very dynamic and creative people and I think we will manage.

But I think what we're talking about this morning is the need to understand the problem before we can begin to design the reactions that will take care of it.

Representative SCHEUER. Mr. Kolberg, you have given us a lot of very thoughtful and positive, splendid insights, but I must say that I don't see your optimism as well justified.

We aren't coping with this problem. We are falling behind. It's demonstrable that we're falling behind. This isn't the first congressional hearing that we've had on education failure. I was on the Education and Labor Committee from January 1965 to January 1972. We were talking about education failure then. That's why we passed the Elementary and Secondary Education Act, 21 years ago.

This is exactly the problem that we faced. That's why we passed ESEA. And that's why we passed Headstart, to make up for the painful, pitiful, sterile home environments from which these disadvantaged kids came that placed them under an irremedial disadvantage the day they knocked on the schoolhouse door. These aren't new problems.

Would you say we've made progress in the last 20 years?

Mr. **Kolberg**. We really haven't.

Representative **Scheuer**. We haven't.

Mr. **Kolberg**. The thing that's changed in the last 20 years is certainly the competition overseas. It's become very much more intense.

Representative **Scheuer**. Of course it has. We are deindustrializing America. We are losing 3,000 jobs a day as the result of this national folly to face up to our problem and to pay for where our values are. But we are not doing it and we don't have a Chief Executive who is giving us the leadership to do it. I say we're failing to meet this. I see no grounds for optimism. I wish I could be optimistic, but I'm pessimistic.

We've had some marvelous thoughts from you and we've had some terrific insights from Mr. Tucker, but these are things that we have to do that there doesn't seem to be any evidence that we're willing to do.

How do we mobilize the public?

Mr. **Kolberg**. Congressman, if I may, I take heart from this hearing.

Representative **Scheuer**. Well, look, there are 20 members of this committee. Why am I all alone here? It's pitiful. And this has been a marvelously stimulating, thoughtful and really exciting hearing, and I grieve that none of my colleagues heard this. How come the only network we have here is C-Span? Newspapers? I doubt if this is going to hit the press. We have had such marvelous testimony from you two it ought to be on the front page of every paper in the country. It ought to be on the 6 o'clock news tonight.

Mr. **Kolberg**. Well, I guess, Congressman——

Representative **Scheuer**. There are a few C-Span addicts around our country, a few million I suppose, who will see it and who will benefit from it. But there, we're preaching to the choir. The very people who are going to watch C-Span are the people who are with you to begin with. They're the intellectual elite. C-Span—I hear people tell me all the time as I travel over the country, "Oh, Congressman, I see you all the time on television," 99 times out of 100 when it comes down to it, they see me on C-Span. We have a group of addicts in this country, television addicts who watch C-Span compulsively. I love them. I adore them. But we're preaching to the choir.

How about that vast public that doesn't want to pay any more taxes? When I campaign in New York people are rushing by me into the subway onto a bus, they only have time for one sentence, "Congressman, don't raise my taxes." I don't have time to tell them about the kids in Harlem, Bedstuy, South Bronx, the welfare burden, the fact that these kids are unemployable, they're scheduled to be structurally unemployed the day they knock on the schoolhouse door when they're 5 or 6 years old. But that's the only message they have, "Congressman, don't raise my taxes."

Mr. **Kolberg**. Congressman, partly it's personality.

Representative **Scheuer**. Why shouldn't we raise their taxes?

Mr. KOLBERG. I see progress in understanding this problem, and therefore, commitment to solving it among a lot of people, some of whom you saw on the video tape. Jim Burke of Johnson & Johnson understands the problem of youth unemployment. He's a very influential man. You enlist people like that little by little. As you know, you've been in political life all your life, it takes a long time to change, to educate, to plant enough seeds that people begin to change their minds and then to act.

Representative SCHEUER. It takes a long time. Mr. Kolberg, time is one asset, it's one luxury we do not have. By how many are we adding to the pool of functional illiterates in this country? How many kids are we graduating? It's in the millions every year. We're going to be dealing with them way into the 21st century. We don't have time. We absolutely do not have time.

Mr. KOLBERG. If you can think of something dramatic to do tomorrow that would change the minds of all the millions of people, I'd be happy to try it because I'm here saying to you I'm as concerned as you are.

Representative SCHEUER. I know you are. Your testimony has been wonderful, inspiring. That film of yours was absolutely marvelous and I agree with everything you say. And everything you said on that film, on the bottom line, is another way of saying we don't have time. We've got to get on with this job of educating America, of eliminating adult illiteracy, of taking kids when they come to school with the moral assurance if they stick to it and their folks give them a little encouragement they're going to graduate from high school, go on to some postsecondary education, so that they are all eligible for those three-quarters of the jobs 15 years hence that are going to require some postsecondary education.

We have to have an education system that will do that and we can't wait.

Mr. KOLBERG. I agree. I agree. That's why we picked the year 2000. It's a benchmark, 14 years from now.

Representative SCHEUER. It's too far away.

Mr. KOLBERG. It may well be, but it's a way of focusing people's attention on these facts. This is what is happening, let us see if between now and then we can't change this society to get at it. I share everything you've said.

Representative SCHEUER. I know you do. You're wonderful.

Mr. TUCKER. There's one thing that encourages me a lot. I've been going around the country in the last 2 months with this report in hand trying to get people to implement what it says and I have talked to a number of Governors. There are two things that encourage me about my conversation with those folks.

One is that they understand precisely what you have been saying, which is that their ability to get industry into their State that's not there now and to keep the industry in their States that is there now depends on doing something about education. That fact is much more widely recognized among chief executives of our States now than it was 5 years ago.

The other thing that is very encouraging is that those Governors in recent years that have pinned their political fate to education have been winning and most of them have been winning big. And that message is getting around to other candidates for Governor around the country.

And that is basically the only thing that encourages me—on a political dimension in all of this, but I think it's not unimportant.

Representative Scheuer. Which Governors are you thinking of? Governor Martin White of Texas?

Mr. Tucker. Governor Kane of New Jersey, Governor White, Governor Clinton of Arkansas. I spent 2 hours last week talking to Booth Gardner, the Governor of Washington State, who was very interested in this report.

Mr. Kolberg. The Governor of Tennessee.

Mr. Tucker. The Governor of Tennessee, Lamar Alexander. Former Governor of North Carolina, Jim Hunt; and the current Governor of North Carolina. Governor Riley of South Carolina has staked his reputation on education and made giant improvements in the last few years in that State. And there are others. There are others I think who in the last few months can be interested in what is in this report and others like it because they are political pragmatists is what I'm really saying.

Representative Scheuer. Well, I hope there's some lateral peer group pressure by those terrific people who you just mentioned.

Mr. Tucker. There is.

Representative Scheuer. What Federal role do you see, Mr. Tucker? I'm really disappointed in Mr. Kolberg. He has given us many marvelous insights and has shown such dynamism in corporate leadership, but he falters when it comes to the point of recognizing a Federal role.

Do you see a Federal role?

Mr. Tucker. Oh, yes. I think first and foremost, it is not to retreat on the programs that have begun and succeeded since 1965. I will say that as many times as you like.

Representative Scheuer. And, of course, we have. We are treating our education successes the way we treat our education failures.

Mr. Tucker. That is correct.

Representative Scheuer. It's absolutely ridiculous.

Mr. Tucker. The Assistant Secretary was wrong this morning when he said that nothing the Federal Government has done in education since 1965 has worked. That is to say, he seemed to me at any rate to be saying that we have had these enormous failures at the same time we've had the Federal programs; therefore, he concludes they haven't worked. The record is simply otherwise.

There is a recent report from the Congressional Budget Office. I think it is brilliantly done and it lays out the record cleanly. The fact is, in recent years elementary school kids have been doing consistently better. Those are the kids in the main to whom the Federal programs were addressed. It is particularly the minority and poor kids who have been doing best of all relative to where they used to be. That is precisely where those programs were addressed.

Representative Scheuer. You're talking about Headstart and all of that.

Mr. Tucker. I am talking about Headstart and what used to be called title I and all of the related programs. They worked. The record shows they worked. This is no time to cut back on those programs. That for me is point one.

Point two, we have got to improve our math and science programs for kids of all kinds in our schools. We are playing out a national tragedy with respect to math and science preparation in our schools.

Third, if we're going to have the teachers that we need in our schools and particularly the minority teachers in our schools, we have got to provide much more funds for programs as I said earlier that reach down into our schools, find talented minority kids, provide them with the support that they need to get to college, and then do well in college.

Last, we have got to provide minority fellowships for minority kids, Federal fellowships for minority kids, to become teachers, especially if the education of teachers takes place at the graduate level. They aren't going to be able to afford to become teachers if we do that unless Federal funds are forthcoming.

All of that I would say is terribly important. Beyond that, I think there is a role for the government to play in programs like cities and schools, and programs like the Boston Compact which involve local partnerships. Money helps.

The energy has to be local. There is no doubt about that. The energy has to be local. But that doesn't mean that the Federal Government can or should completely stand aside. I just don't believe that. It is in the long run absolutely essential that the Federal Government address problems of interstate equity. This is not a weird idea. There are other advanced industrial countries——

Representative SCHEUER. We've been doing it for 200 years.

Mr. TUCKER. In other realms, that's right. We have not said as a country that the Federal Government ought to be making up for the inequities in ability to finance education between States.

Representative SCHEUER. We did it in title I.

Mr. TUCKER. I mean in a general way. We have done it with respect to categorical programs. I'm suggesting the principle has to be expanded. And it's an odd thing to say in the current fiscal crisis that the Government faces, but I believe it is going to be absolutely necessary. There are countries with which we compete that do that routinely; that is, countries organized on a Federal basis like Australia, that typically make essentially equalization grants to the States so that they are on an equal footing with respect to their ability to pay for education. We've just got to abandon this idea that poor education affects only those who are poorly educated. It really does affect all of us.

That's a fairly hefty Federal agenda, it seems to me, both for the short and the intermediate term, and I believe Federal participation is going to be very important.

Representative SCHEUER. Do you see for the Federal Government in designing some kind of national literacy program for adults and for kids in school with a great deal of the leadership, as Mr. Kolberg says and as you say, coming from the State and local level?

Mr. TUCKER. Most of the people who are going to be in the work force in the year 2000 are already there and our work force is woefully badly educated for the job it has got to do. When I talk about the year 2000 I mean that the game is going to be over in 15 years if we don't do something.

What we do about elementary school kids now is very important, but it's not going to affect the near- or medium-term outcome. The near- or medium-term outcome I think is really going to determine the relative position of the United States in the economic order of nations for a long time to come.

So I would argue, yes, that it is terribly important that the Federal Government worry now about the education of our work force. That means illiteracy, but it means a lot more than that. We have many too few engineers in this country and many of the engineers that we have haven't had serious continuing education for 20 or 25 years. One of the fastest growing requirements that we have in this country is essentially for lab technicians of a variety of kinds. We've got to meet that need somehow. We have needs right across the work force that we have got to figure out how to meet. We've got to do it with a variety of tax expenditures, I believe, to provide incentives to employers. We've got to provide it directly. We've got to provide assistance to higher education institutions. We've got to completely redesign our vocational education system, which I believe is moribund.

All that we have to do to reeducate the people who are currently in our work force if we're going to make it, and I believe there is a very important Federal role in all of that.

Representative SCHEUER. I believe the Federal role is now.

Mr. TUCKER. Yes.

Representative SCHEUER. I believe this challenge is now and I believe our country must meet that challenge now or we are going to see our standard of living on the slippery slope, irretrievably on the slippery slope. I don't think we want that.

Well, this has been a very terrific hearing and I appreciate your patience and your tolerance. You've been here 3½ hours and we've benefited a great deal by it. A couple of you said that you were going to submit—I think both of you said you would submit some things for the record. Do you remember what they are? OK; and we would appreciate that very much and we will be in touch with you. We are very grateful for your testimony.

The subcommittee stands in recess.

[Whereupon, at 1:50 p.m., the subcommittee recessed, to reconvene at 9:30 a.m., Thursday, July 31, 1986.]

[The following information was subsequently supplied for the record:]

AMERICAN SOCIETY FOR
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Statement of

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and

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Director of Government Affairs
American Society for Training and Development

before the

Subcommittee on Economic Resources,
Competitiveness and Security Economics of the
Joint Economic Committee

on

July 29, 1986
Washington, D. C.

The American Society for Training and Development (ASTD) appreciates the opportunity to present its views on the impact of our aging population on American business.

ASTD is an association representing more than 50,000 training and development professionals nationwide; members are concentrated primarily in Fortune 1000 companies. Our national affairs interest is focused primarily on the relationship between internal corporate human resource development and the external forces which challenge American business such as the changing economic picture, demographics of the workforce, and tax policy.

Demographic projections for the rest of this century present a significant challenge to American business and its workers. Viewed in concert with the prospect of continually evolving technology, the aging of the American workforce also has profound implications for workplace training.

A key player in the demographic snapshot of the 1990's is "the baby boom". Just as it shaped employers' perspectives on the entry-level workforce in the 1970's, it will redefine how employers develop their mid-level workforce. And, as its members move toward retirement, it will reshape the role of the older worker.

The leading edge of the "baby boom" has just turned forty and won't be retiring for another thirty years. Over that period of time, employers will face a curious demographic twist in their internal labor markets. That twist involves a tripartite split in labor market conditions. First, there is likely to be a decline in both the quantity and quality of entry-level employees. At the same time, there is likely to be a glut of mid-career "baby boomers" whose careers will plateau giving rise to worrisome frustration in the workplace. An added complication will be the growing number of older employees who will block the higher rungs on career ladders because companies, and perhaps the nation, can't afford to retire them.

Entry-Level Shortages

The decline in the quantity and quality of entry-level hires will be driven by three mutually reinforcing factors:

- demographic decline in the 16 to 24 year old age cohort in combination with lower rates of inflation will drive unemployment rates downward, reducing the size of the surplus labor pool;
- with lower unemployment and the general increase in the relative size of disadvantaged minority populations, populations with English speaking difficulty, and increasing female-relative-to-male labor force participation, the employer will be hiring from a labor pool with decidedly less basic skill and experience; and

- as the overall level of educational attainment increases in the national labor force, the overall quality of employees for any specific level of educational attainment will decline (that is, today's average college graduate is not as good as yesterday's).

The effects of entry level scarcity will be to increase employer costs for (1) sorting among prospective hires, (2) upgrading prospective hires through training and development, and (3) providing compensation and career development packages to attract the best talent in competition with other employers, government and the military.

Labor scarcity, of course, is not without its problems, especially for employers. But from a national human resource perspective, it is good news. For the first time since the late 1960's, human capital will be of high economic value. Because employers will have to build a quality workforce rather than buy it, there will be an increased economic interest in human resource development. This means an implicit emphasis on training in the workplace.

Mid-Career Plateauing

Concurrent with the entry-level shortage will be the issue of mid-career plateauing for workers in the next age cohort. By 1990, over 50% of the labor force will be in the 25-44 year old age group. There are a variety of reasons to believe that the expectations for promotions among this age group will not be met. Moreover, this generation of Americans is the best educated in our history. Education correlates highly with work ethic and with demand for meaningful work, with participation in workplace decisions, a high demand for work related training and development, and with a willingness to actively pursue personal goals. In other words, this is a generation with high expectations in terms of career development and movement within the organizational structure.

But it appears that there will not be enough "good" jobs for the baby boom as it moves to mid-career. In short, many in that age group are likely to be confronted with jobs that underutilize their skills and education.

The result will be mid-career plateauing and career frustration. Evidence of this emerging phenomenon has been accumulating since the "baby boom" entered the workforce at age sixteen. In fact, wages for 16-24 year old males declined steadily throughout the seventies as supply overwhelmed demand.

As the "baby boom" shoulders its way in the 25-44 year old age cohort, wages are declining for that group as well.

And, although female wages have not declined relative to previous generations of females, they have declined relative to what one would have expected females to be earning given their improvements in education and job experience. In short, the female wage improvement scale has been affected more by comparison to an historically low wage base than from any dramatic improvements in female job prospects.

Implications for Older Workers

Entry-level scarcity and mid-career plateauing have varied implications for employer demand vis-a-vis older workers. These include:

- the employers' need to attract the best entry level employees and to retain better mid-career personnel could create upward pressure on career ladders throughout the employee workforce, encouraging employers to vacate senior positions where older workers tend to concentrate;
- costs relative to selection, training and development, and compensation could rise as employers strive to find, attract and keep quality workers;
- "cost creep" is likely to be a problem if employers create too many "good" jobs in order to satisfy demands for advancement and engage in alternative work arrangements to siphon off employee frustration; and
- attempts to create policies that advantage either entry-level, mid-career or older employees are likely to coalesce separate age groupings into self-conscious interests and foment internal tensions destructive of team productivity.

The shape of the labor force will present diverse choices for human resource managers. Because the employer workforce over the next thirty years will be middle-aged and entry level poor, employers may be encouraged to retire older employees in order to "free up" financial resources and promotions for mid-level and entry-level employees. But at the same time, a strong economy, price stability, continued early retirement and entry level shortages will create contrary incentives favoring retention of older employees.

Retaining and Retraining the Older Employee

For employers, the value of older employees and the return on retention and development costs is largely determined by the complementarity between older workers' job responsibilities and prior experience. The employers' interest in older employees stems mainly from the older employee's human capital accumulated through many years of formal and informal training on the job. If available jobs do not compliment that experience, the older employees accumulated human capital is radically devalued.

Faced with a need for retraining the older worker from scratch, employers will have to evaluate the relative return on investment in training a younger v. older employee. Employers are likely to favor younger employees under this scenario, primarily because younger workers will be around longer. Absent a government subsidy to employers for costs associated with retraining older workers, or a concession by the older worker to bear the burden of the added costs through acceptance of reduced wages, the added expense of retraining older workers may be viewed by business as a "bad bargain."

Supply and demand will also play a pivotal role in employer decisions to retrain and retain older workers. Areas with declining industries tend to have high concentrations of older workers in spite of their tendency to offer strong retirement incentives. In declining industries, initial retirements tend to reduce the average age of the workforce; but over time, the industry does not attract sufficient younger employees. The result is a gradual increase in the average age of the remaining employee workforce. Thus, an aging workforce may be the only labor pool in some geographic regions.

The concentration of older employees in various occupations is also part of the future picture of the aging workforce. Older employees are currently concentrated among positions and occupations that demand experience or demonstrated ability--lawyers or managers, for instance. Older workers are also concentrated in jobs with autonomy and flexibility--among the professions and self-employed, for example.

The implications of the current and continuing variability in employer and employee experience of aging in the workplace suggests that the labor market for older workers is and will continue to be highly fractionalized. Determinants of supply and demand will be unique to each individual market. And variability in supply and demand suggests highly individualized responses on the part of employers.

But Will Older Workers Want to Remain In the Workforce?

The wild card in any discussion of employer reaction to the prospect of an aging workforce is the employee.

Barring changes in current retirement incentives, it seems clear that employer attempts to provide incentives for fuller utilization of older workers will be swimming upstream against a general set of incentives encouraging early retirement. This argues for the general removal of broad incentives for early retirement if individual employer efforts at mobilizing older employee productivity are to be effective.

Challenges and Opportunities

While the prospect of an aging workforce presents many challenges for both business and workers, it also presents opportunities. Employees who wish to remain in the workforce longer for either economic or job satisfaction reasons are likely to be able to do so. Employers will have the opportunity to pull a large part of their workforce from a seasoned labor pool.

Central to both the challenges and opportunities, however, is the training issue. The demographics portend the need for a significant investment in training and retraining if America is to be competitive as we move toward the next century.

Thank you.

DEMOGRAPHIC CHANGES IN THE UNITED STATES: THE ECONOMIC AND SOCIAL CONSEQUENCES INTO THE 21ST CENTURY

THURSDAY, JULY 31, 1986

CONGRESS OF THE UNITED STATES, SUBCOMMITTEE ON ECONOMIC RESOURCES, COMPETITIVENESS, AND SECURITY ECONOMICS OF THE JOINT ECONOMIC COMMITTEE,
Washington, DC.

The subcommittee met, pursuant to recess, at 9:35 a.m, in room 2359, Rayburn House Office Building, Hon. James H. Scheuer (member of the subcommittee) presiding.

Present: Representative Scheuer.

Also present: William R. Buechner, professional staff member.

OPENING STATEMENT OF REPRESENTATIVE SCHEUER, PRESIDING

Representative SCHEUER. Today, the Joint Economic Committee's Subcommittee on Economic Resources, Competitiveness, and Security Economics will continue its series on the implications to our country, to our society, to our economy, of the extraordinary collective population changes that are taking place in our country.

We will be looking at the individual components of the changes and the total change and analyzing their impact on almost every aspect of our economy and on our society and every population group.

In our previous two hearings we have had a fascinating look at demographic trends in general and the ways in which they will profoundly transform our country as we move into the 21st century.

At the first hearing last Friday, on July 25, Labor Secretary Bill Brock and Census Director John Keane and a panel of three very distinguished demographers presented the figures on population change that will occur to the middle of the next century. The impact on our society and our economy of the rapid graying, and rapid aging of the American society, and the impact of the falloff of the baby boom as it disappears into the population mists in another 10, 20, or 30 years. And the impact of the baby bust generation, the sharply reduced generation of young people as they come into their working years as they're beginning to do now and move up the age spectrum.

In our second hearing last Tuesday, we had a discussion with Assistant Secretary of Labor Roger Semerad, Marc Tucker of the Carnegie Forum on Education and the Economy, Bill Kolberg of the

National Alliance of Business, and with other witnesses on how the labor force will be affected in the years ahead. How job requirements will change, the massive upgrading in education and literacy and numeracy that will be required if we're not to see our country in an upheaval of structural unemployment. A vast explosion in structural unemployment affecting over 20 percent of our youth who currently now do not have reading, writing, and counting skills, and the effect that is likely to have not only on our economy in terms of the economic burden of 20 percent of our labor force that is nonproductive, but on our society as these young people in frustration and alienation and rage strike out and lash out. I don't think any of us want that, but we have to look at what's ahead, look at the demands of the 16 or 18 million new jobs that will be created in the two decades ahead, evaluate the order of magnitude of reading, writing, and counting skills that are required.

Approximately 75 to 80 percent of the new jobs that will be created in the next two decades will require some postsecondary education. Literacy and numeracy skills are the bare minimum. Beyond that, three-quarters of these jobs at a minimum will require some post-high school education.

Our society has to be thinking hard about that and preparing to do that and making tough policy decisions and creating programs to accomplish that if we are to avoid unimaginable conflict and bitterness and tensions in our society that have the ugliest kind of racial and ethnic overtones.

In today's hearings, we are going to shift our focus to the elderly among us. We will examine how the growing number of older Americans will affect the Social Security System, our very concept of what retirement is, when it should occur, the health care system, the Federal budget, the future of the American family.

Now we have some charts to look at that will dramatize the changes that will occur to the elderly population in the years ahead. Let me start with chart 1 over here.

The two lines on this chart indicate how rapidly our population is aging. The top line shows the median age of our population from 1950 on the left-hand side to the year 2050 on the extreme right-hand side. In 1950, the median age of our population was 30. That is, half the population was less and half the population was more. As you can see, that blue line dips slightly and then starts a steady rise, so that by 2050 our median age has gone up from 30 years old in 1950 to 40 years old in 2050. That's an enormously significant change.

Now why are those changes taking place? Well, a number of reasons. Women are having fewer children. They are delaying their children. People are living longer so that the aging portion of the population is weighing more heavily on the scales, and most baby boomers—that big lump in the population curve—are now out of the baby stage and now entering into the 30 or older stage and pretty soon, once they are much above 30 they are gradually getting into the top-age half of the population and further tilting the scales. This big lump of baby boomers is now joining the elderly who are extending their lives so dramatically to tip the scales toward the elderly.

By the turn of the century, the median age of the American population, as you can see, by 1990 will be 36 years old and by the year 2010 anyone who's less than 40 years old will be a gangling youth.

The second line shows the percentage of the population over the golden age of 65. We're going to have to change that golden age to maybe 70 or 75 because pretty soon I think we're going to look at people 65 as quite capable of engaging in the world of work. Most of them don't want to be summarily severed.

Our health has improved dramatically. We're not only living very much longer, but the added years are very active and healthy and vital and productive years. It may be that as we move over 65, while we won't want to stop working, we may want to work an hour or 2 less a day, maybe 4 days a week, maybe Mondays, Wednesdays, and Fridays, maybe afternoons, maybe mornings, maybe 10 to 4. There are all kinds of ways of making an adjustment to a slightly more relaxed work style, let us say. But I think we will become accustomed to people working after 65.

We can see the elderly population will continue to rise, as I say, to the year 2010 rather slowly because very few people were born during the depression and during the immediate postdepression World War II years. But then following 2010 as you can see that rise goes up at a very much sharper tilt, as the first baby boomers reach retirement age, and for the next 20 years the number of people over 65 rockets upward.

To make that dramatic, today there are 28 million over the age of 65, one in every eight Americans. By the year 2030 there will be 65 million Americans or one in five Americans. That's dramatic.

The second chart over there puts this into a different perspective by contrasting the upcoming changes in the elderly population with the projections of the numbers of youth. In the upper part of the bar chart it shows the inexorable growth in the number of older Americans. You see it's just a tiny little slice there in the first few bars—1950, 1960, 1970, 1980, 1990. It's beginning to grow after 1990, but by the year 2010 and afterward that top half gets to be a very significant hunk. That is the segment of our population that is 85 and older.

Today, there are 2.5 million of them, barely visible, on the chart in 1980, a tiny little slice. This will double by the year 2000 to 5 million and then it will grow by the middle of the century from 5 million by the year 2000 and 2.5 million now to 20 million—20 million people living over the age of 85.

How do we house them? How do we fill their days? How do we provide them with health care? We know that the people 65 to 85 are predominantly a very healthy, robust people. As we've extended the age, we've extended the life, too. They're healthy, active, and productive.

But as they pass 85, their health begins to fail and they will be making tremendous demands on the health care system. We have to almost create a new health care system for the old-old.

How do we do it? Who performs it? What roles can the elderly well play? What roles can paraprofessionals play, people without fully licensed medical certification? There are all kinds of perplexing problems that we must face up to and come to some answers with. How do we house these people? Is communal housing a possible answer? They don't want to be isolated from the mainstream, but they do want to be protected.

Now the last chart, the one on the left, is the dependency ratio. That is the total number of people below and above the working group in relation to the working people who in effect support them. That is the number of people under 18 and over 65 who are supported by the 18 to 65 group. And this has to give us some very serious cause for anxiety.

The dependency ratio hit a peak of 82 in 1960, the second line from the left over there. That's its peak. And that is 82 dependents, kids below 18 or seniors over 65, for every 100 workers. And that was simply because of the massive number of baby boomers born after World War II who had to be supported by their parents. Since then, the dependency ratio has fallen significantly because there are fewer children and because the baby boom children of the 1960's and 1970's are now entering the labor force and are enlarging the middle group and subtracting from the kids group, the birth to 18 group.

There has been an increase in the elderly, but that has been overbalanced by the decline in the number of children who have entered the labor force.

As the chart shows, the dependency ratio stays down through the year 2010 which means that working people will have to devote only a comparatively small percentage of their earnings to supporting children and the elderly. After the year 2010, however, this trend reverses and the dependency ratio rises. All the rise occurs among the elderly, as the baby boomers reach retirement and there are fewer workers left behind to support more of the weak people.

And this does pose a potential conflict between workers and retirees, the conflict on the part of workers who feel they're going to have to devote more and more of their real earnings to supporting the elderly.

Today, we have a number of expert witnesses who have been asked to look into the future and analyze how this growth among the elderly will affect our society and our economy.

Our first witness is the very able and very much respected Director of the Congressional Budget Office, Mr. Rudolph Penner, who will discuss how the growing number of elderly Americans will affect the Social Security Program, Medicare, and the Federal budget.

We also have following that a panel of experts from the private sector who will give their thoughts on how these trends will affect our country into the 21st century. These witnesses are Mr. Peter Morrison, director of the Population Research Center at the Rand Corp.; Professor George Myers, head of the Center for Demographic Studies at Duke University; Mr. John Rother, director, Division of Legislation, Research and Public Policy, AARP, the American Association of Retired Persons; and Professor Beth Soldo, who chairs the Department of Demography at Georgetown University. That will be our second panel.

Now we are delighted to welcome Mr. Rudy Penner. Mr. Penner, why don't you take 8 or 10 minutes to hit the highlights of your statement and give us sort of a bird's eye view of the next half a century or so and what it's going to mean for our society, what it's going to mean for our economy, what it's going to mean for our quality of life.

STATEMENT OF RUDOLPH G. PENNER, DIRECTOR, CONGRESSIONAL BUDGET OFFICE

Mr. PENNER. Thank you very much, Congressman. I'm pleased to be here to discuss trends in the size of the elderly population and their implications for the budget.

You have provided really a very comprehensive summary of the first part of my statement which discusses population changes, and as you charts show, I think that one of the most important elements of this subject for the Federal budget is the growth in the number of the old elderly. Under the middle census projection, the number of people age 85 and over is projected to increase from 2.7 million to 16 million between now and the year 2050, rising from about 1 in 90 Americans today to 1 in 20 by the middle of the next century.

While the elderly have grown as a share of the U.S. population in recent years, as a whole their standard of living has improved. Between 1969 and 1984, the median per capita, pretax income of the elderly grew from $5,100 to $7,600 in constant 1984 dollars, and the proportion of elderly Americans living in poverty declined from 25.3 percent to 12.4 percent. This progress has been made possible by economic growth throughout most of the economy and by expansion in Federal programs designed to benefit the elderly.

Past growth in the size of the elderly population—and decisions to cover an increasing share of their needs through public transfers—have significantly altered the shape of the Federal budget. Between 1965 and 1985, spending for the elderly under major Federal transfer programs grew from about $63 billion to nearly $260 billion in constant 1985 dollars, or from about $3,400 per elderly person to more than $9,000 in constant dollars. Relative to the economy, Federal spending for the elderly increased from 2.8 percent to 6.6 percent of the gross national product.

How we accommodate the continued aging of our population will depend on many factors. Of paramount importance will be the rate at which the economy grows between now and the next century. It will help determine the amount of resources available, thereby establishing the context within which important policy decisions have to be made. Though precise budgetary impacts cannot be forecast, it is possible to identify in broad terms how demographic trends would affect major categories of Federal spending if current policies remain unchanged.

The aging of the population will be felt substantially in the social security program, which pays retirement benefits to the great majority of all elderly people and disability benefits to many others.

Under any of four sets of economic and demographic assumptions prepared by the social security trustees, annual revenues earmarked to finance social security are projected to exceed outlays at least through the first decade of the next century. After that, the course for the social security trust funds is enormously sensitive to the assumptions used. Under optimistic assumptions, social security revenues would continue to exceed outlays at least through the middle of the next century. By contrast, under pessimistic assumptions, outlays would begin to exceed revenues much sooner, and trust fund assets would be exhausted by 2025. Under these scenarios, social security expenditures in the year 2050 would range from 4.7 percent of GNP—roughly their present level—to more than 8 percent.

Further growth in the number of elderly people will also increase Federal spending under the Medicare program. Since its creation in 1965, expenditures for the hospital insurance component of Medicare have risen sharply, reflecting growth in the number of beneficiaries, increased services per beneficiary, and price increases throughout the U.S. health care system. In 1986, hospital insurance [HI] outlays are expected to total $49 billion, or about 1.2 percent of GNP.

Despite Medicare reforms enacted over the past few years, HI outlays are expected to continue to grow more rapidly than the economy, eventually outstripping the revenues earmarked to pay for them. Under the most recent projections prepared by the Medicare trustees, HI expenditures are forecast to rise to between 1.7 and 5.7 percent of GNP by the year 2050, and the HI trust fund is projected to be depleted by anywhere between the mid-1990's and sometime in the first half of the next century. The eventual course for HI expenditures will depend on such factors as how rapidly the Secretary of Health and Human Services allows the payment rates for hospitals to increase, the long-term response of hospitals to the recently enacted prospective payment system, and the health of future cohorts of the elderly.

The supplementary medical insurance [SMI] component of Medicare provides insurance to pay part of the costs of physicians' fees and certain other medical services, while charging enrollees a premium equal to about one-fourth of the total cost of the coverage. As with hospital insurance, total reimbursements under SMI have grown much more rapidly than can be accounted for by increased patient loads and general inflation. In the current fiscal year, outlays for SMI net of enrollees' premiums are expected to amount to about $19 billion, or 0.5 percent of GNP.

Although long-term forecasts of SMI outlays are not available, estimates prepared by the Congressional Budget Office suggest that the rapid growth in expenditures will continue at least in the near term. Under our most recent projection, SMI outlays net of enrollees' premiums are expected to nearly double by 1991.

The aging of the population is likely to have particularly serious impact on the need for long-term care services, ranging from limited assistance with the tasks of daily living to skilled medical care provided in nursing homes or other institutional settings.

Public financing for long-term care services is provided mainly by Medicaid. Under that program, the Federal Government shares with States the cost of providing long-term care to all elderly people who satisfy maximum income and asset limits established by States within Federal guidelines. The practical effect is that in most States, many elderly people "spend down" in order to qualify for aid, thus impoverishing themselves and their spouses.

Spending for long-term care has grown rapidly in recent years, driven by many of the same factors that have pushed up acute-care costs. In 1986, total public spending for long-term care is expected to amount to about $27 billion. Medicaid will account for about $20 billion of that total, with the Federal Government paying about 55 percent of that cost.

Demand for long-term care services will almost certainly increase steeply in the decades ahead as the number of "old elderly" grows. Dealing with this situation will be one of the principal challenges facing the country in the years ahead. Continuing current policies in this area could more than double Medicaid long-term care outlays in real terms by the end of this century, with the prospect of still further increases as the baby boom generation reaches its most advanced years.

One alternative to current policy would be to encourage more families to care for frail elderly or disabled relatives in their own homes, either through direct payments or tax credits. A different approach would be for the Congress to develop mechanisms that would permit people to contribute in advance to cover the costs of long-term care, while spreading those costs among all potential users. One such option would be to promote the use of private long-term care insurance, which is still in the experimental stage. Another option would be to expand the public role by mandating long-term care insurance, perhaps combined with a dedicated tax to pay for it.

Throughout its history, the United States has accommodated shifts in the composition of its population. How readily we accommodate the further aging of our population will depend crucially on how quickly the economy grows. If economic resources expand rapidly enough, future generations of working-age people might not find it unduly burdensome to share with their parents even a somewhat larger portion of the future GNP. Slower growth would, of course, increase the strain involved in maintaining the living standards of the elderly at any particular level. Thank you very much.

[The prepared statement of Mr. Penner follows:]

PREPARED STATEMENT OF RUDOLPH G. PENNER

The number of older Americans has grown substantially in recent years. At the same time, their economic well-being has improved--in part as a result of public policies that have directed an increasing share of the federal budget toward them. Because the elderly will continue to grow in absolute numbers and as a share of the U.S. population well into the next century, considerable concern has been expressed about the implications of continuing current policies for the federal budget and for society at large.

My remarks today will cover three topics:

- First, trends in the size and composition of the elderly population;
- Second, changes in the economic circumstances of older Americans, and the role that the federal government has played in those changes;
- Third, implications for the federal budget of the continued aging of the population.

TRENDS IN THE SIZE AND COMPOSITION OF THE ELDERLY POPULATION

The graying of America is not a new phenomenon, nor will it end soon. Between 1950 and 1985, the number of Americans age 65 or older grew from about 12 million to more than 28 million, increasing from 8 percent to 12 percent of the U.S. population. Under a range of projections prepared by the Bureau of the Census, the number of elderly people is expected to grow to between 56 million and 83 million by the year 2050, accounting for between roughly one-fifth and one-fourth of all Americans. (Figures 1 and 2 show the past increase in the elderly population and the projected growth under the "middle" Census forecast.) 1/

Growth in the number of "old elderly" is expected to be particularly sharp. Under the middle Census projection, while the number of people between the ages of 65 and 74 is projected to peak around 2030, the number of people between 75 and 84 will continue to grow for another decade after that, and the number of Americans age 85 and over is expected to rise into the latter half of the twenty-first century. The number of people age 85 and over is projected to increase from 2.7 million to 16 million between now and the year 2050, rising from about one in 90 Americans today to one in 20 by the middle of the next century.

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1. The Census projections are prepared using alternative assumptions regarding fertility rates, mortality rates, and immigration. Only assumptions regarding mortality rates and immigration affect estimates of the number of elderly people between now and the year 2050. All three assumptions affect estimates of the size of the elderly population as a share of the total population.

FIGURE 1

Composition of the Elderly Population
1950 - 2050

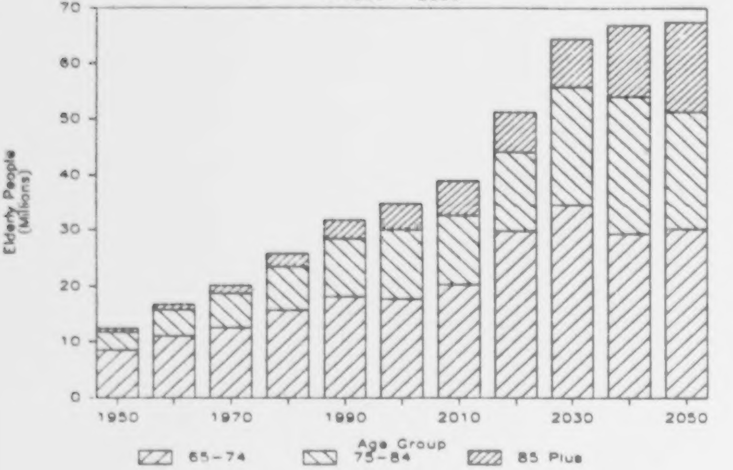
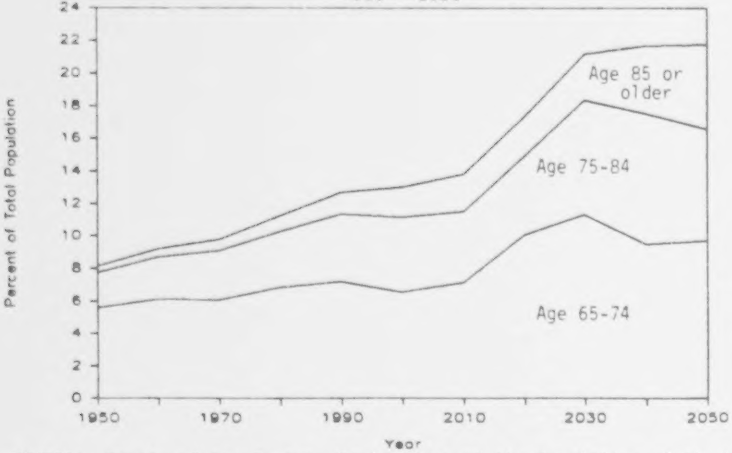


FIGURE 2

Elderly as Percentage of Population
1950 - 2050



SOURCE: Bureau of the Census, Projections of the Population of the United States, by Age, Sex, and Race: 1983-2080 (Series P-25, no. 952, May 1984), using middle projection series.

CHANGES IN THE ECONOMIC CIRCUMSTANCES OF THE ELDERLY AND IMPACTS ON THE FEDERAL BUDGET

While the elderly have grown as a share of the U.S. population in recent years, as a whole their standard of living has improved. This progress has been made possible by real income growth throughout most of the economy and by expansion in federal programs designed to benefit the elderly. In effect, the nation has become better off, and we have used a portion of our increased incomes to raise the living standards of our oldest citizens.

Changes in the Economic Circumstances of the Elderly

Though sizable numbers of the elderly remain in or near poverty, as a group older Americans are better off today than they have been in the recent past. As shown in Table 1, in the 15 years between 1969 and 1984, the median per-capita, pre-tax income of the elderly grew from $5,100 to $7,600 in constant 1984 dollars--increasing from about 76 percent of the equivalent figure for nonelderly people to 97 percent, or virtual parity. 2/ During this period, the proportion of elderly Americans living below the official poverty thresholds declined from 25.3 percent (more than double the poverty rate among younger people) to 12.4 percent (two percentage points less than the rate for

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2. The relative income position of the elderly is even better on an after-tax basis, because they benefit from certain tax preferences (discussed on page 12) that are not available to younger taxpayers. On the other hand, because elderly people are more likely than younger ones to be living alone or in only two-person families, they are less likely to enjoy the economies of scale that are available to younger families in running households.

the rest of the population). (See Table 2.) On the other hand, another 16.7 percent of all elderly people had incomes in 1984 of no more than 50 percent above poverty--nearly twice the comparable figure for the rest of the population.

Some groups within the elderly population are particularly likely to still be living in or near poverty. While less than 17 percent of all married elderly people had incomes of no more than 150 percent of the poverty line in 1984, more than 40 percent of all single elderly people lived in or near poverty. Among single black women age 65 or older--one of the poorest groups within the elderly population--fully 71 percent had incomes of no more than 150 percent of the poverty line.

TABLE 1. MEDIAN PER-CAPITA INCOME OF THE ELDERLY AND NONELDERLY: 1969 AND 1984 (In 1984 dollars)

	1969	1984
Median Per-Capita Income of the Elderly in 1984 Dollars a/	5,100	7,600
Median Per-Capita Income of the Nonelderly in 1984 Dollars a/	6,750	7,800
Ratio of Median for Elderly to Median for Nonelderly	.76	.97

SOURCE: Congressional Budget Office calculations based on data from the March 1970 and March 1985 Current Population Surveys.

NOTE: Data include only the noninstitutionalized population.

a. In this table, per-capita income is calculated as the total income of the nuclear family--consisting of a person, his or her spouse (if any), and any minor children living with them--divided by the number of people in that family. People are classified as elderly or nonelderly according to whether their own age is greater than or equal to 65, or less than 65.

The improvement in the economic status of older Americans reflects primarily an increase in their retirement income--much of it the result of public policy decisions. Between 1969 and 1984, for example, the proportion of the elderly receiving Social Security benefits, or whose spouses received such benefits, rose from 84 percent to 93 percent (see Table 3). During that period, the median per-capita Social Security benefit for those receiving it increased from about $2,850 to $4,600 in constant 1984 dollars. This rise reflects the substantial increases in benefits that were enacted during this period and the effect of higher earnings histories on the benefits of more recent retirees.

TABLE 2. PERCENTAGES OF PEOPLE BY FAMILY INCOME IN RELATION TO POVERTY THRESHOLDS: 1969 AND 1984 a/

	1969			1984		
	Below 100% of Poverty	100% to 150% of Poverty	150% of Poverty and Above	Below 100% of Poverty	100% to 150% of Poverty	150% of Poverty and Above
All Elderly People	25.3	18.1	56.6	12.4	16.7	70.9
Married people	16.5	18.1	65.3	6.0	10.9	83.1
Single women	35.9	18.0	46.1	20.6	23.5	55.9
Single men	29.8	17.9	52.3	16.8	22.5	60.7
All Nonelderly People	10.8	10.2	79.0	14.7	9.0	76.3

SOURCE: Congressional Budget Office calculations based on data from the March 1970 and March 1985 Current Population Surveys.

NOTE: Data include only the noninstitutionalized population.

a. Income relative to poverty thresholds includes the income of all family members as designated by the Census Bureau.

TABLE 3. PER-CAPITA INCOME OF THE ELDERLY, BY SOURCE: 1969 AND 1984
(In 1984 dollars) a/

Income Source	1969 Percent of All Elderly with Income from Source	1969 Median Per-Capita Income from Source for Those Receiving It	1984 Percent of All Elderly with Income from Source	1984 Median Per-Capita Income from Source for Those Receiving It
Social Security	83.8	2,850	92.8	4,600
Pensions b/	23.2	2,600	39.2	2,450
Income from Assets	49.8	1,050	70.5	1,550
Earnings	33.6	3,700	22.2	3,450
Means-Tested Benefits	9.8	1,900	7.3	1,400
Other	10.8	1,700	8.5	1,050

SOURCE: Congressional Budget Office calculations based on data from the March 1970 and March 1985 Current Population Surveys.

NOTE: Data include only the noninstitutionalized elderly.

a. In this table, per-capita income is calculated as the total income of the nuclear family--consisting of a person, his or her spouse (if any), and any minor children living with them--divided by the number of people in that family. People are classified as elderly or nonelderly according to whether their own age is greater than or equal to 65, or less than 65.

b. Includes pensions earned by employees of federal, state, and local governments and by people who worked for private employers.

The proportion of all elderly people receiving public-employee or private pensions, or whose spouses received such benefits, also increased over the last decade and a half--from 23 percent in 1969 to 39 percent in 1984. This growth reflects past expansions in the coverage of workers, and the aging of the workforce previously covered. 3/ The federal government has long provided tax incentives for contributions to pension funds. In addition, since the passage of the Employee Retirement Income Security Act in 1974, the federal government has further encouraged the spread of pensions by requiring that where plans exist they meet certain standards regarding the breadth of coverage and how quickly workers vest. 4/

The increase in nonemployment income of the elderly has helped permit growing numbers of them to retire at earlier ages. As one measure of this trend, between 1969 and 1984 the proportion of all elderly people

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3. The typical benefit for those receiving pensions edged down slightly in real terms between 1969 and 1984. This small drop might reflect the expansion of pension coverage to include more lower-paid workers relative to earlier cohorts of retirees.

4. Wealth--that is, the difference between a family's assets and its liabilities--also contributes economic resources. As of 1984, the median net worth of households headed by a person age 65 or older was about $60,000--higher than the equivalent figure for any other age group except those between ages 55 and 64. Home ownership accounts for a significant share of wealth for the elderly. More than 70 percent of all households headed by an elderly person own the homes in which they live. Of that group, a majority own their homes free and clear, that is unencumbered by a mortgage. As of 1984, for all elderly homeowners--including those who were still making mortgage payments--the median equity they held in their homes was about $46,000. (The federal government helps promote home ownership for people of all ages by allowing owner-occupants to deduct mortgage interest payments and property tax payments from taxable income in calculating their federal tax liability.)

reporting any income from wages and salaries, or whose spouses reported such income, fell from about one-third to less than one-fourth. The elderly have also used some of their increased retirement income to maintain households independent of their children or other relatives--apparently a long-standing desire of most older people. 5/ Between 1960 and 1984, the proportion of all noninstitutionalized elderly people residing with their adult children or with extended family members fell from approximately 40 percent to about 22 percent.

Finally, in the last two decades, the elderly have been granted greatly expanded access to health care--again, largely as a result of federal programs. Since the mid-1960s, through the Medicare and Medicaid programs, the federal government has paid a large share of both the acute health-care and long-term-care costs of the elderly.

Federal Budgetary Impacts

Past growth in the size of the elderly population--and decisions to cover an increasing share of their needs through public programs--have significantly altered the shape of the federal budget. As shown in Table 4, between 1965 and 1985, spending for the elderly under major federal transfer programs

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5. In surveys dating back to the mid-1950s, a sizable majority of older people has consistently expressed a preference to live independent of their grown children.

TABLE 4. ESTIMATED FEDERAL SPENDING FOR THE ELDERLY UNDER SELECTED PROGRAMS: FISCAL YEARS 1965-1985

	1965	1971	1975	1980	1985
		In Billions of Dollars			
Social Security	a/	27.1	51.8	81.2	140.4
Railroad Retirement	a/	1.7	2.8	3.6	4.7
Federal Civilian Retirement	a/	2.3	5.5	7.8	13.7
Military Retirement	a/	0.7	1.1	1.8	4.3
Benefits for Coal Miners b/	a/	0.1	0.2	1.3	1.5
Supplementary Security Income	a/	1.4c/	1.8	2.3	3.2
Veterans Pensions d/	a/	0.9	1.5	3.3	5.4
Medicare	a/	7.5	12.8	29.3	61.4
Medicaid	a/	1.9	2.6	4.7	8.5
Food Stamps e/	a/	0.2	1.0	0.5	0.6
Housing Assistance	a/	0.2	0.4	2.3	4.5f/
Other g/	a/	n.a.	n.a.	6.1	10.3
Total	18.8	44.0	81.3	144.2	258.6
Total in 1985 Dollars	62.6	113.1	158.5	191.0	258.6
		Federal Spending for the Elderly Relative to Total Federal Outlays, the Size of the Elderly Population, and GNP			
Spending for the Elderly:					
Per aged person, in 1985 dollars	3,390	5,500	6,980	7,430	9,060
As a percent of total federal outlays	15.9	20.9	24.5	24.4	27.3
As a percent of total federal outlays, excluding defense and net interest	31.9	37.8	36.5	35.7	45.8
As percent of GNP	2.8	4.2	5.3	5.4	6.6

(continued)

TABLE 4. (Continued)

SOURCES: Figures for 1971-1985 from 1986 Statistical Abstract of the United States; figures for 1965 from R. Clark and J. Menefee, "Federal Expenditures for the Elderly: Past and Future," The Gerontologist, April 1981.

NOTES: Reported spending includes only federal outlays directed toward the elderly. Figures do not include federal outlays benefiting younger people or spending by state and local governments.

Details may not add to totals because of rounding.

n.a. = not available.

a. Estimated total spending for the elderly in 1965 was taken from a source that did not report spending separately by program.

b. Prior to 1980, represents benefits for miners' widows only.

c. Represents grants to states to aid the aged, blind, and disabled.

d. Includes other veterans' compensation for aged beginning in 1980.

e. Includes nutrition assistance to Puerto Rico.

f. Adjusted to eliminate outlays resulting from changing the financing procedures for public housing.

g. Includes, among other items, Administration on Aging programs, National Institute on Aging spending, housing loans for the elderly, and energy assistance.

grew from about $63 billion to nearly $260 billion in constant 1985 dollars, or from about $3,400 per elderly person to more than $9,000 in constant dollars. During that period, spending for the elderly rose from 16 percent to 27 percent of all federal outlays, or from about one-third to nearly one-half of all outlays for domestic programs--that is, spending other than for defense and net interest payments. Relative to the economy, federal spending for the elderly grew from 2.8 percent to 6.6 percent of the gross national product (GNP).

Tax benefits also play a major role in affecting the income available to the elderly after retirement. The favorable treatment granted to accumulations in qualified retirement programs, including individual retirement accounts, resulted in $63 billion in forgone tax revenues for the federal government in fiscal year 1985. 6/ Other major tax benefits for the elderly include the exemption from taxation of most Social Security payments (resulting in about $17 billion in forgone revenues in 1985), and the double personal exemption provided to the elderly (resulting in $3 billion in forgone revenues in the last fiscal year). Largely because most Social Security benefits are exempt from federal income taxation, currently only about one-half of all elderly people pay any federal payroll or income taxes; this compares with about 90 percent of all other adults who pay such taxes.

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6. These provisions benefit people during their working years by allowing them to defer taxation of part of their income until after they reach retirement age. To the extent that these tax provisions enhance total savings, they also increase the income available to workers after they retire.

IMPLICATIONS FOR THE FUTURE

How the United States accommodates the continued aging of its population will depend on many factors. Of paramount importance will be the rate at which the economy grows between now and the next century. It will help determine the amount of resources available to support the consumption needs of all citizens, including the elderly. In turn, the rate at which young people save may affect the overall growth rate and will certainly influence their standard of living in later years, because it will determine the amount of private assets they will have to draw on in retirement.

The outlook for the federal budget will depend on these factors, and on future public policy decisions. Though precise budgetary impacts cannot be forecast, it is possible to identify in broad terms how demographic trends would affect major categories of federal spending if current policies were unchanged.

Social Security

The aging of the population will be felt substantially in the Social Security Old-Age, Survivors, and Disability Insurance (OASDI) programs, which pay retirement benefits to the great majority of all elderly people and disability benefits to many others. 7/ Social Security expenditures are financed principally through a payroll tax that applies to more than 90 percent of all workers, supplemented by the inclusion in taxable income of up to half the benefits of higher-income recipients.

Through much of the history of the program, Social Security benefits have been increased in real terms, new types of benefits have been authorized, and earmarked revenues have been increased. In 1983, however, when faced with the prospect of imminent insolvency in the Social Security trust funds, the Congress acted to constrain growth in benefits while increasing earmarked revenues. Earlier this year, the Board of Trustees of the OASDI trust funds estimated that revenues into the funds in 1986 would total $215 billion; outlays were estimated to equal $202 billion, or about 4.9 percent of GNP.

Under any of four sets of economic and demographic assumptions prepared by the Social Security trustees, annual tax revenues into the trust funds are projected to exceed outlays at least through the first decade of the next century. As shown in Table 5, under the Alternative II-B

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7. Although people receiving benefits by virtue of a disability are shifted from the Disability Insurance (DI) program to the Old-Age and Survivors Insurance (OASI) program upon reaching age 65, a large share of those receiving assistance under the DI program are close to that age. As of 1983, 36 percent of all disabled workers receiving DI benefits were 60 years old or older, and another 23 percent were between age 55 and age 59. Beginning in the year 2000, the age at which beneficiaries are shifted from OASI to DI will be phased up from 65 to 67.

TABLE 5. PROJECTED FUNDING UNDER ALTERNATIVE II-B ASSUMPTIONS FOR COMBINED OLD-AGE, SURVIVORS AND DISABILITY INSURANCE (OASDI) TRUST FUNDS: 1986-2050 (In billions of 1986 dollars, and as percent of GNP)

	1986	1990	2000	2010	2020	2030	2040	2050
				In Billions of 1986 Dollars a/				
Revenues								
Taxes b/	212	255	326	399	468	545	640	746
Interest	4	11	41	99	142	129	76	5
Total	215	266	367	498	611	674	716	751
Outlays c/	202	220	262	329	485	654	769	891
Trust Fund Assets	44	156	750	1,759	2,482	2,215	1,280	33
				As Percent of GNP a/				
Revenues								
Taxes	5.1	5.5	5.5	5.4	5.4	5.3	5.1	5.0
Interest	0.1	0.2	0.7	1.3	1.6	1.2	0.6	0.0
Total	5.2	5.7	6.2	6.8	7.0	6.5	5.7	5.0
Outlays	4.9	4.8	4.4	4.5	5.5	6.3	6.2	6.0
Trust Fund Assets	1.1	3.4	12.6	23.9	28.4	21.4	10.3	0.2

SOURCE: Harry C. Ballantyne, "Long-Range Estimates of Social Security Trust Fund Operations in Dollars," Actuarial Note No. 127, Social Security Administration, April 1986.

NOTE: Details may not add to totals because of rounding.

a. All dollar amounts were deflated using the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W), as projected by the trustees under Alternative II-B. The gross national product (GNP) projections were also made by the trustees under Alternative II-B.

b. Income from OASDI payroll taxes, taxation of benefits, and reimbursements from the General Fund of the Treasury for the costs associated with special benefits to certain uninsured recipients who attained age 72 before 1968.

c. Most outlays are for benefit payments to OASDI recipients. A small portion is for administrative expenses, transfers to the Railroad Retirement program, and payments for vocational rehabilitation services for disabled recipients.

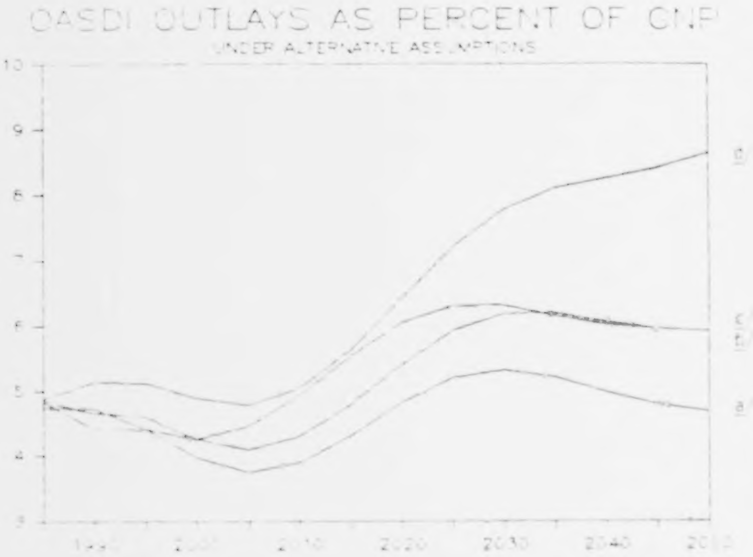
"intermediate" assumptions, revenues from taxes are projected to exceed outlays until around the year 2020. Beginning then, annual OASDI outlays would substantially exceed tax revenues, as the post-war baby boom generation expands the beneficiary rolls. Because the trust funds would have accumulated a very large pool of assets by that time, interest income would continue to expand fund balances for at least part of the following decade. After 2030, outlays would exceed total revenues, and the trust fund balances would be virtually exhausted by the year 2050. Under this scenario, expenditures would peak at about 6.3 percent of GNP around 2030, declining to 6.0 percent of GNP in 2050.

All such projections should be treated with caution, however, because they are enormously sensitive to the assumptions on which they are based. As shown in Figure 3, under the trustees' most optimistic assumptions, Social Security outlays are expected to amount to 4.7 percent of GNP in 2050, and the trust funds are projected to remain solvent at least until the year 2060. By contrast, under the most pessimistic assumptions, OASDI outlays would exceed 8 percent of GNP by the middle of the next century, and trust fund assets would be exhausted by 2025.

Acute Health Care

Further growth in the number of elderly people will also increase federal spending under the Medicare program, which pays about 85 percent of public

FIGURE 3



OASDI OUTLAYS AS PERCENT OF GNP

UNDER ALTERNATIVE ASSUMPTIONS

SOURCE: 1986 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds and Harry C. Ballantyne, "Long-Range Estimates of Social Security Trust Fund Operations in Dollars," Actuarial Note No. 127, Social Security Administration, April 1986.

a. Alternative I ("Optimistic") assumptions: real economic growth ranges between 3.1 percent and 4.2 percent annually between now and the year 2010, and equals 3.0 percent thereafter. Inflation ranges between 2.0 percent and 3.2 percent between now and 2010, and equals 2.0 percent thereafter. Average life expectancy at age 65 increases by between one and two years between now and the year 2050.

b. Alternative II-A ("Intermediate") assumptions: real economic growth ranges between 2.7 percent and 3.7 percent annually between now and the year 2010, and equals 2.4 percent thereafter. Inflation ranges between 2.9 percent and 3.9 percent between now and 2010, and equals 3.0 percent thereafter. Average life expectancy at age 65 increases by between three and four years between now and the year 2050.

c. Alternative II-B ("Intermediate") assumptions: real economic growth ranges between 2.3 percent and 3.1 percent annually between now and the year 2010, and equals 2.0 percent thereafter. Inflation ranges between 3.2 percent and 4.9 percent between now and 2010, and equals 4.0 percent thereafter. Average life expectancy at age 65 increases by between three and four years between now and the year 2050.

d. Alternative III ("Pessimistic") assumptions: real economic growth averages about 2 percent annually between now and the year 2010, and equals 1.4 percent thereafter. Inflation ranges between 4.2 percent and 5.8 percent between now and 2010, and equals 5.0 percent thereafter. Average life expectancy at age 65 increases by between about six and seven years between now and the year 2050.

costs and about 60 percent of total costs of providing acute health care for older Americans. 8/

Hospital Insurance. The hospital insurance (HI) component of Medicare--the largest federal health care program--helps pay for hospital care for nearly all elderly people; it is financed through a payroll tax levied in conjunction with the Social Security tax. Since its creation in 1965, expenditures for HI have risen sharply as a result of growth in the number of beneficiaries, increased services per beneficiary, and price increases throughout the U.S. health-care system. Much of this outlay growth reflects improved benefits to the elderly, but the design of the program also contributed to expenditure growth. As first designed, HI paid hospitals whatever "reasonable" costs they incurred in treating Medicare patients, thus creating little incentive for them to provide services as efficiently as possible.

After a series of changes intended to control the rate of increase in HI expenditures under the cost-based system, the Congress enacted a

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8. Under the Medicaid program, the federal government shares with states the expense of covering some of the acute-care costs of low-income elderly people. Medicaid pays their premiums under the Supplementary Medical Insurance component of Medicare, covers their Medicare cost-sharing requirements, and pays for certain services not covered by Medicare. The total of all federal and state expenditures for these purposes accounts for 7 percent of all public spending on acute care for the elderly, however, and makes up less than 13 percent of all Medicaid outlays.

"prospective payment system" (PPS) in 1983. Hospitals are now paid fixed amounts, known in advance, for each Medicare patient in each of nearly 500 diagnosis-related groups. While the PPS offers the prospect of slowing the growth in Medicare outlays, expenditures have continued to increase more rapidly than the economy. In 1986, HI outlays are expected to total $49 billion, or about 1.2 percent of GNP. Hospital-based services account for just over 90 percent of the total; payments to patients in skilled nursing facilities and for home health care make up the remainder.

Under a wide range of assumptions, HI outlays are expected to continue to grow more rapidly than the economy, eventually outstripping the revenues earmarked to pay for them. As shown in Figure 4, under the most recent projections prepared by the Medicare trustees, HI expenditures are forecast to rise to between 1.7 percent and 5.7 percent of GNP by the year 2050; the HI trust fund is projected to be depleted by anywhere between the mid-1990s and some time in the first half of the next century. (Under the "intermediate" assumptions, expenditures would amount to 3.0 percent of GNP by the year 2050, and the trust fund would remain solvent until the last years of this century.) 9/ The eventual course for HI expenditures will depend on such factors as how rapidly the Secretary of Health and Human

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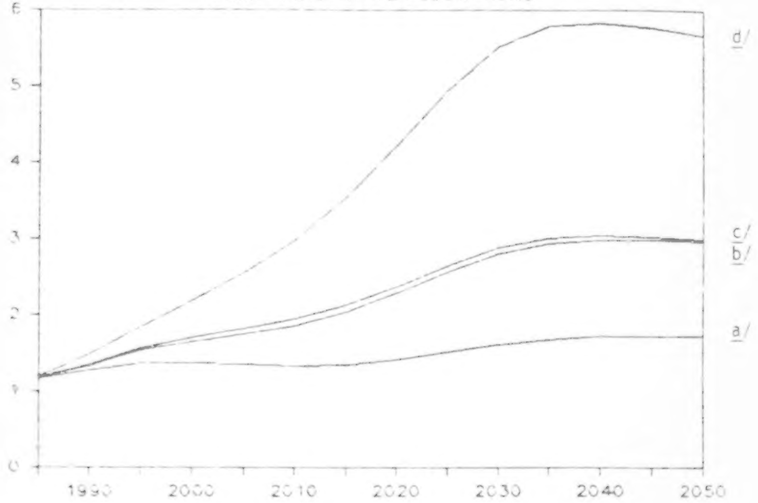
9. These projections were prepared before enactment earlier this year of the Consolidated Omnibus Budget Reconciliation Act (COBRA), which is expected to slow somewhat the growth in HI outlays. Updated projections prepared by the Department of Health and Human Services indicate that under the HI trustees' intermediate assumptions, COBRA would delay the date of insolvency for the HI trust fund by two years and would increase the 75-year actuarial balance of the fund by about 10 percent.

FIGURE 4

HI OUTLAYS AS PERCENT OF GNP

UNDER ALTERNATIVE ASSUMPTIONS



SOURCE: 1986 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds and Harry C. Ballantyne, "Long-Range Estimates of Social Security Trust Fund Operations in Dollars," Actuarial Note No. 127, Social Security Administration, April 1986.

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c. Alternative II-B ("Intermediate") assumptions: real economic growth ranges between 2.3 percent and 3.1 percent annually between now and the year 2010, and equals 2.0 percent thereafter. Inflation ranges between 3.2 percent and 4.9 percent between now and 2010, and equals 4.0 percent thereafter. Average life expectancy at age 65 increases by between three and four years between now and the year 2050.

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Services allows hospitals' payment rates to increase, the long-term response of hospitals to the PPS, the health of future cohorts of the elderly, and the effects of changes in medical technology on the frequency and cost of treatment.

With the HI trust fund facing the prospect of eventual insolvency, some future Congress will have to either raise taxes or curtail expenditures. One option would be to use some of the revenues that are now earmarked to pay for the OASDI programs to finance HI instead. While such a funding shift would improve the financial outlook of the HI fund, it would diminish the assets available to pay future Social Security benefits. Other options for increasing revenues include raising the HI payroll tax or making up some or all of the trust fund deficiency from general revenues. Options for curtailing spending include requiring that Medicare enrollees pay a greater share of their own health-care expenses; further limiting reimbursements to hospitals, with attendant risks to the quality of care; or directly rationing the amount of care available to the elderly.

Supplementary Medical Insurance. The Supplementary Medical Insurance (SMI) component of Medicare presents a similar set of issues. The SMI program provides insurance to pay part of the costs of physicians' fees and certain other medical services, while charging enrollees a premium equal to about one-fourth of the total cost of the coverage. The remaining three-fourths are made up through general federal revenues.

As with HI, reimbursements under SMI have grown more rapidly than can be accounted for by increased patient loads and general inflation. This growth was the result in part of a reimbursement system that provides little incentive for physicians either to restrain fee increases or to limit the volume of services provided to their patients. A cost-based index was introduced in 1972 to limit growth in payment rates, and payment rates were left unchanged from July 1983 through April 1986; in contrast to the HI program, however, there have been no fundamental changes in the incentives for providers. 10/ In the current fiscal year, outlays for SMI net of enrollees' premiums are expected to amount to $19.2 billion, or 0.5 percent of GNP.

Although long-term forecasts of SMI outlays are not available, estimates prepared by the Congressional Budget Office (CBO) suggest that the rapid growth in expenditures will continue at least in the near term. Our most recent projections foresee SMI net outlays increasing at an annual rate of 8 percent per enrollee over and above the general rate of inflation

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10. Payment rates were frozen for all physicians through April 1986. The freeze was lifted for "participating" physicians on May 1, but continued for "nonparticipating" physicians until January 1, 1987. (Participating physicians are those who have agreed to accept assignment for all their Medicare patients. Accepting assignment means that the physician bills Medicare directly for its payment share and agrees to accept Medicare's approved amount as the fee. Physicians who refuse assignment bill their patients for the full billed charge, and patients must then seek reimbursement from Medicare for Medicare's share of its approved amount.)

through 1991. As shown in Table 6, SMI outlays net of enrollees' premiums are expected to nearly double by then to $38 billion, or 0.6 percent of GNP.

Faced with rising costs, the Congress can continue to offer SMI in its current form--using general revenues to make up the growing gap between premiums and program costs--or it can curtail the growth in SMI spending. Options for reducing spending are similar to those for HI. The Congress could increase the share of program costs borne by enrollees. For example, premiums could be raised to pay for more than one-fourth of total outlays. Alternatively, the Congress could limit payment rates to providers or limit the use of services. One specific option would be to adopt a fee schedule to pay doctors fixed amounts for each type of procedure or service performed, combined with systematic utilization review to guard against unwarranted increases in the volume of services provided. Another approach would be to encourage Medicare recipients to enroll in group payment plans such as health maintenance organizations (HMOs) that limit annual federal costs to a fixed amount per enrollee.

Long-Term Care

The aging of the population is likely to have a particularly serious impact on the need for long-term care (LTC) services, ranging from limited assistance with the tasks of daily living to skilled medical care provided in a nursing home or other institutional setting.

TABLE 6. PROJECTED OUTLAYS AND PREMIUM COLLECTIONS UNDER SUPPLEMENTARY MEDICAL INSURANCE (SMI) PROGRAM: 1986-1991 (In billions of dollars, and as a percent of GNP)

	1986	1987	1988	1989	1990	1991
Total SMI Outlays	24.8	28.1	32.4	36.6	41.3	46.8
Premium Collections	-5.7	-6.5	-7.5	-8.0	-8.5	-9.0
Outlays net of premiums	19.2	21.7	24.9	28.6	32.9	37.8
Net outlays as percent of GNP	0.46	0.48	0.51	0.55	0.58	0.62

SOURCE: Congressional Budget Office estimates.

NOTE: Details may not add to totals because of rounding.

Public funding for LTC services--which pays for about half of all spending on long-term care--is provided primarily through Medicaid, with the great majority of the funds going to finance nursing home care. Under Medicaid, the federal government shares with states the cost of providing LTC to all elderly people who satisfy maximum income and asset limits established by states within federal guidelines. 11/ The practical effect is that many elderly people have to "spend down" to satisfy the Medicaid income and asset limits--impoverishing themselves and their spouses in order to receive public assistance with what can be a devastatingly large cost of aging.

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11. Medicaid also covers nonelderly people who receive Aid to Families with Dependent Children, others whom states deem to be "medically needy," and mentally retarded citizens who meet the income and asset criteria.

Spending for LTC has grown rapidly in recent years, driven by many of the same factors that have pushed up acute-care costs. In 1986, total public spending for LTC is expected to amount to about $27 billion, or 0.6 percent of GNP. Medicaid will account for about $20 billion of the total, with the federal government paying about 55 percent of that cost. (Spending for LTC is among the largest and most rapidly growing components of the Medicaid program. Currently, LTC expenditures account for about 45 percent of all Medicaid outlays. Because states have a great deal of flexibility in setting Medicaid rules, the share of total spending devoted to LTC services and the rate of growth in those expenditures varies appreciably around the nation.)

Remaining public spending for LTC is accounted for by Medicare, programs funded under the Social Services Block Grant to states, Veterans' Administration health care, Older Americans Act programs, and resources provided by states and localities out of their own revenues. Private spending for LTC--an amount roughly equal to public spending--is almost all paid out of pocket by patients or their families, rather than through the private insurance mechanism that is often used for acute care. In addition, many services are provided without reimbursement by family members or by other informal caregivers.

Demand for LTC services will almost certainly increase steeply in the decades ahead as the number of "old elderly" grows. While less than 2 percent of all people between the ages of 65 and 74 reside in nursing homes, 7 percent of all 75-to-84 year olds and more than 20 percent of all those age 85 or older live in such institutions. Thus, the expected doubling in the number of 75-to-84 year olds between now and the year 2050, and the projected six-fold increase in the number of people over 85, portend a potentially enormous increase in the demand for LTC services.

Dealing with this situation will be one of the principal challenges facing the country in the years ahead. Continuing current policies in this area could more than double Medicaid LTC outlays in real terms by the end of this century, with the prospect of still further increases as the baby boom generation reaches its most advanced years. It would also mean perpetuating a system in which many elderly have to impoverish themselves and their spouses to qualify for help. In addition, it is possible that states might respond to rising LTC costs by curtailing acute-care services for the nonelderly poor--the other principal component of Medicaid.

One alternative to current policies would be to encourage more families to care for their frail elderly or disabled relatives in their homes. Financing incentives to do so could be offered through either direct payments or tax credits. For many elderly, this would be less expensive than continuing to rely primarily on institutional care; in some instances, however, home care would be infeasible. Also, in some cases, the payments would substitute for free care now given by family and friends.

A different approach would be for the Congress to develop mechanisms that would permit people to contribute in advance to cover the costs of LTC, while spreading those costs among all potential users. One option would be to promote the use of private long-term care insurance, which is still in the experimental stage. As with any voluntary insurance scheme, however, this approach would carry some risk of adverse selection, with people who are more likely to need LTC services being more likely to enroll, thus increasing premiums. A second approach would be to expand the public role by mandating LTC insurance, perhaps combined with a dedicated tax to pay for it. Under either insurance approach, it would be necessary to act well in advance of the time when the need for LTC services will be greatest, if people who are currently of working age are to have contributed large enough sums to finance their own LTC services.

Other Programs

Numerous other smaller federal programs will also be affected by the aging of the population. Among entitlement programs, means-tested transfers benefiting the elderly constitute one potential bright spot. To the extent that further increases in average Social Security benefits, growth in public and private pensions, and increased returns on savings continue to reduce the proportion of elderly with very low incomes, spending under such programs as Supplemental Security Income (SSI) and food stamps will grow more slowly or may fall. Even today, however, spending for the elderly under these programs is small compared with retirement-income and health-care programs. Currently, federal spending for the elderly under SSI and food stamps amounts to only about 0.1 percent of GNP.

Future spending for appropriated programs benefiting the elderly--such as subsidized housing, Veterans' Administration health care, and home energy assistance--is harder to forecast. While growth in the number of elderly could increase the demand for these services, in contrast to entitlement programs, spending under appropriated programs will not rise automatically. Instead, their cost will depend on annual funding decisions made by future Congresses.

CONCLUSION

Throughout its history, the United States has accommodated shifts in the composition of its population. Thus, while the projected growth in the size of the elderly population in the years ahead will place additional demands on society, it will not be the first such challenge we will have faced. Indeed, over the past two decades we have already accommodated some increase in the size of the elderly population while greatly improving their average standard of living.

How readily we accommodate the further aging of our population will depend crucially on the rate of growth in the economy. If economic resources expand rapidly enough, future generations of working-age people might not find it unduly burdensome to share with their parents even a somewhat larger portion of the future GNP. Slower growth would, of course, increase the strain involved in maintaining the living standards of the elderly at any particular level.

One gauge of the potential impact of the growing number of elderly people is the increase that it will cause in federal retirement and health-care programs, if current policies are continued. Using intermediate projections prepared by the Department of Health and Human Services, spending for Social Security and the HI component of Medicare alone will rise from about 6 percent of GNP today to about 9 percent by the middle of the next century. SMI outlays could also increase sharply, but from a lower base. Federal spending for long-term care--though low today compared with either Social Security or Medicare--could grow explosively with the steep increase in the number of old elderly.

Faced with this prospect, several broad choices are available. First, the government could accommodate future demographic shifts without changing current policies, thus allowing the cost of public programs for the elderly to increase relative to the size of the economy. Alternatively, the growth in public programs could be curtailed. That would leave future generations of the elderly more heavily reliant than they would otherwise be on their own resources or on aid from family members. Finally, the government could make it possible for today's working-age population to contribute more in advance toward meeting the needs they will face in their old age by, for example, developing a system of insurance to cover long-term care costs.

Representative SCHEUER. Well, thank you, Mr. Penner, for your predictably thoughtful testimony.

I think at this time we will take about a 12 to 13 minute recess while we catch this rollcall vote.

[A brief recess was taken.]

Representative SCHEUER. The subcommittee will resume.

Mr. Penner, right now 12 percent of our population is over the age of 65 and the Census Bureau predicts that the over-65 part of the population will increase to 22 percent by the middle of the next century.

However, you predict that social security outlays will rise as a percentage of GNP from 4.9 percent now to only 6 percent by the year 2050. The implication is that benefits will be reduced.

What is the outlook for social security benefits per capita?

Mr. PENNER. No, sir, that is a very large rise in the percentage of GNP that will be absorbed. If you have my complete prepared statement——

Representative SCHEUER. Well, it's 1.1 percent.

Mr. PENNER. Yes. Well, that's a pretty big step. But to go directly to your question, the formula that determines social security benefits does imply a steady rise in the real value of those benefits as the earnings' history of the people retiring improves as a result of economic growth.

The one element of constraint in these projections is that current law will increase the retirement age toward the turn of this century and that, of course, saves a lot of money.

Representative SCHEUER. By how much? As I recall, we go up by 1 year.

Mr. PENNER. I think the age of full retirement increases to 67 eventually. We go up gradually starting around the turn of the century.

Representative SCHEUER. Over about a 10-year period, as I recall.

Mr. PENNER. Yes. The increase actually is phased in over two 6-year periods, with the first period beginning in 2000 and the second period ending in 2022.

Representative SCHEUER. Just on a judgmental basis, do you think we ought to take it beyond 67 as we have this exponential increase in the over-85 population? Do you think that people could not afford to work or perform the work but could the life style where people work let's say to 68 or 69 or 70, perhaps as I mentioned before on a somewhat reduced number of hours or number of days or whatever? Would that be part of our national life style? Would it be acceptable?

Mr. PENNER. I think that that's very much a value judgment that the Congress will have to make. If one is concerned about the burden being imposed by social security, there are different ways of changing that burden. One way is, as you suggest, to increase gradually the age at which people get full retirement benefits. That increase obviously doesn't prevent people from retiring earlier if they want. They would just have to take an actuarial reduction in their benefits if they did that. As I said, real benefits will increase through time because of economic growth. As a result, people might be more able to retire early if that's what they want to do, even if there were a bigger reduction.

On the other hand, you could keep the retirement age the same and look at the basic formula that determines initial benefits. That formula is now indexed to wages. The philosophy behind the formula is to keep the benefits of the average person growing not only in real terms but along with the growth in productivity of the rest of the population. Obviously, you could alter the benefit formula if your desire were either to slow down that growth or, indeed, to increase the growth in the real income.

It's something we don't look at very much. Whenever people talk about changing the benefits under social security, they tend to look immediately at the COLA's, which affect the current retired generation, because that has an immediate effect on outlays. I always wished we would examine more closely the formula that determines a person's benefits on the first day he or she retires. Changing that doesn't have very important immediate budget effects, but it has a very important effect in the longer run.

Representative SCHEUER. How about rather than continuing the person on their same job the philosophy that around 65, 66, or 67 people could have a second career as a volunteer worker perhaps compensated to some extent?

There was an article in yesterday's Wall Street Journal that talked about the increasing suicide rate among the elderly. I don't know if you saw that.

Mr. PENNER. I saw that.

Representative SCHEUER. And part of that frustration was unhappiness, profound unhappiness among the elderly, was the fact that they no longer felt they had a purpose in life. They were no longer challenged, especially middle class and upper middle class people in the executive, managerial class. You read it. You saw the quotes. They came from positions of responsibility and authority in some respect to nothing.

We had testimony a couple of days ago on the problem of adult illiteracy where we desperately need to involve people to commit people who are literate, who have language skills, counting skills on perhaps a one-to-one relationship with both young people in our society and people in their 20's and 30's who form this 20 percent of our working population that are functionally illiterate.

Can you see a nexus between the educated middle class retirees and this terrible problem of functional illiteracy and the individual members of that group who urgently need help and some way of providing some funds to sort of grease the machinery, some of it perhaps would be on a voluntary basis, but some compensation might be present, too?

Mr. PENNER. I would really like to, sir. Given the growing numbers of the elderly, their improved health, and their improved economic status, we have an extraordinary resource in those people that could be used beneficially, in theory at least, in all sorts of areas of the economy—volunteer work, more work for pay, or whatever.

Yet, I am really struck by a paradox that I can't fully explain. And that is, by their own choice, the elderly, despite their improving health, are choosing to retire at an earlier and earlier age through time and many more of them every year are opting to retire and go on social security at age 62.

Representative **Scheuer**. At less than the full retirement benefits they would receive if they waited?

Mr. **Penner**. That's right. and I don't have a good explanation of that for you. It is obviously true that most people don't have the kind of interesting jobs that you and I do, and they're probably very eager to leave work. But I am puzzled by the fact that, though they would seem by the statistics to be healthier and more able to work, they are not choosing to do so.

Representative **Scheuer**. Well, I suppose different strokes for different folks. Some of them may want to engage themselves in this kind of work and perhaps a program whereby elderly well will care for the old and old-old who need special help, so that the elderly people who are well and literate and educated could have a choice between helping people in this young age group acquire literacy skills so they could make a contribution to our society and taking care at the other end of the spectrum perhaps 10 or 15 or 20 years ahead of them in the age group, who need help and who need some human companionship, too.

Well, let me ask you what to me is a profoundly disturbing phenomena. The elderly group that we will have for the next 20, 30, or 40 years is predominantly white. As the baby boomers who are now passing into the work force in 30 years will be in the old and then the old-old group, they are predominantly white middle class, whereas the future entrants into the work force 10, 20, or 30 years down the pike will be increasingly black and hispanic and minority.

Are we likely to see well into the next century not only an intergenerational conflict of middle class people feeling that each one of them is supporting more and more elderly people or that there are fewer and fewer working people to support each elderly person, and therefore, it's taking a larger percentage of their net disposable income to do that, but also the emergence of a feeling on the part of a work force that is increasingly black and Hispanic that they are taking care of a white middle class group of elderly retirees? So that we're overlaying an intergenerational conflict with a potentially very embittered and nasty racial and ethnic conflict, too?

Mr. **Penner**. I would certainly hope not, sir.

Representative **Scheuer**. Do the demographic statistics suggest that such a phenomenon is at least possible?

Mr. **Penner**. It is certainly the case that the black birth rate is higher than the white and that the black population is growing faster than the white. It is also certainly the case that——

Representative **Scheuer**. The black work force, the black component of the work force, and the Hispanic component will be increasing rather substantially, wouldn't it, in the next generation?

Mr. **Penner**. I was also going to add, of course, that in the area of immigration, there is an increase in Hispanics, but I frankly don't know what that implies for the racial and ethnic composition of the population in the year 2025 or 2050. Whatever the change, I think you can say for sure that it will be a very gradual one, and I would very much hope that we could socially adjust to that kind of change.

To get away from the demographic composition for a moment, it is often said that if past trends continue, there will also be a very important change in what the work force is doing. That is to say, we are moving more and more toward a service economy and away from traditional manufacturing activities. People often associate services with unskillled workers, and I think that's something of a myth. Many of our services in fact require highly skilled people—the whole teaching profession, for example, is part of the service sector.

So I do think that skill levels will continue to improve as we move along—at least if we have adequate economic growth, as I emphasized in my statement. That is really the key to how well we can do in the future.

Representative SCHEUER. If we have adequate economic growth. Let's relate the absolute requirement for adequate economic growth to the 20 percent of the new labor force entrants who are minority, black, Hispanic, and so forth, and who are to an alarming extent without literacy skills and counting skills.

How likely is it that we are going to be able to achieve that continued economic growth, perhaps 3 percent or more, with the economic albatross around the neck of our economy composed of 20 percent of new job entrants and a significant percentage of existing members of the work force who don't have literacy and numeracy skills? And what will it pay us to do on a strict cost-benefit basis—forgetting the improvement in the quality of our society and the serenity that we can look forward to and all the humanitarian and compassionate justifications for making people literate—just from the cold-hearted economics of it, can you tell us how we can approach a sort of cost-benefit analysis of what are the costs to our economy of illiteracy? What are the opportunity costs to an economy of not achieving that 3 percent so that we can't afford to face up fairly to the increasing cost of caring for the elderly? And what will it pay us to invest in a crash program over the next generation to make sure that we are a literate, and therefore, an increasingly productive America?

And I can tell you in passing that we had testimony here from Assistant Secretary of Labor Semerad and from the Carnegie Forum representative that they think we have to spend on the order of $40 or $50 billion per year by the year 2000 in a crash program to achieve an illiteracy-free country.

Can you give us a cold-hearted, cost-benefit analysis of how we ought to approach those investments?

Mr. PENNER. First of all, I think the key to economic growth in the future is the productivity of the work force and that, of course, depends on all of the things that you were talking about plus the rate of growth of capital investment.

The rate of growth in the productivity of the work force has been going down through time. It was much lower in the 1970's than it was in the 1960's, and though it's improved a little bit in the last few years, it hasn't improved nearly as much as some of us expected that it would.

The productivity of the work force is also sensitive to its age composition and the one thing that we have going for us in the next few decades is that the number of younger workers will be falling. As you can see from your chart over there on the right, the age 18 to 24 population is actually declining. That decline at least enables us to have a somewhat more ambitious target for the rate of unemployment.

To go directly to your question, though, as to how we can improve the productivity of the younger worker through training programs, I have to say to you very frankly that I think we do not know how to do that very well. We have had a large number of programs, and though people analyzing them sometimes differ quite dramatically in their assessment of the effectiveness of those programs, a large number of studies suggest that the programs are not very effective.

I think that we have a lot to learn about how we improve productivity through training. I think we need a lot of experimentation in this area, and we just have to be very careful about diving into particular programs unless we are reasonably sure that they will actually pay off, as you said, in the cold-hearted way of an adequate return on the dollars spent.

Representative SCHEUER. Well, Mr. Penner, you have given us a great deal to think about and chew over. We've kept you here for over an hour and a quarter. The fact that we're way behind schedule is testimony to the interest and the substance of your remarks. We appreciate it very, very much. We will have some questions for you that we will provide you by mail and hope you can get us answers. Thank you very much for your testimony.

Mr. PENNER. Thank you.

Representative SCHEUER. Now we will ask the panel to join us. We have an excellent panel here this morning, four very distinguished experts. We will start with Professor Beth Soldo, who chairs the Department of Demography at Georgetown University. Ms. Soldo, why don't you talk to us for 6 or 8 minutes and then we'll go on to the other witnesses and hope that you'll be able to stay long enough for some questions.

STATEMENT OF BETH J. SOLDO, ASSOCIATE PROFESSOR AND CHAIRMAN, DEPARTMENT OF DEMOGRAPHY, GEORGETOWN UNIVERSITY

Ms. SOLDO. Thank you very much, Congressman. You obviously have a very good grasp of the quantitative dimensions of population aging, but I'd like to focus in my 6 or 8 minutes this morning on one of the more important qualitative aspects of population aging, and that is changes in the health status of the elderly and what that implies for the health care delivery system.

Future trends in the demand for and the use of health care services do not follow directly from increases in the number of elderly or even in the number of the extreme elderly. A projected 150 percent increase, for example, in the number of aged 85 and over by 2040 does not necessarily imply a comparable increase in the number of frail elderly or even in the rates of nursing home and hospital use.

The reasons why this simple interpolation logic fails is important I think to the intent of your hearings. Old people make extensive use of health care services because they are sick, not because they are old. Even among the very oldest, those 85 and even 90 years of age and older, there's a significant subgroup who are free of disease and intact mentally and physically.

Our recent research indicates that variations in mental and physical health at the older ages are not due to chronological age in and of itself but more to the effects over time of such factors as race, education, and socioeconomic status. These factors are associated both with health and with survival.

In other words, policymakers are not hostage to demographic trends. They have considerable and important input into constraining and directing the effects of demographic changes over time, even while acknowledging—and the DRG's are a good example of this—that oftentimes the effects of legislative intervention are not always easy to predict or to contain.

The second point also is a very fundamental notion but it deserves attention. That is, that disease processes and risks operate at the individual level while their policy impact plays out at the aggregate level. It's probable that the future trends at these two levels will paradoxically move in opposite directions.

The recent drop in mortality, for example, from diabetes has resulted in a 24-percent increase in disease prevalence and possibly also a greater prevalence in peripheral circulatory diseases. In general, better disease management strategies, even while they improve the survivorship chances for individuals, may increase the aggregate demand for health care services.

It also is important to appreciate the heterogeneity of the population. Most of the improvements in survivorship that you mentioned earlier have been accomplished not by curing nor eradicating disease, but rather by better techniques of disease management and disease control.

This has the effect oftentimes of slowing the rate of disease progression but at the same time incrementing, as we look at the population at one point in time, disease prevalence and the demand on health care services.

Turning now to the health care system and its relationship to population aging, the projections that I'm sure you're familiar with, Congressman Scheuer, all assume that the major dynamic component is change in population age structure or, secondarily, change in disability-morbidity rates. These, however, assume that there's no change in either the organization or the financing of the health care delivery system. And it's exactly in these areas—the organization and the financing—that I suspect the effects of population aging will be greatest.

It's important to note, too, that I use the word "system" here only by simple convention. We are describing what is in fact a very ad hoc, fragmented array of personal and medical care services that often cross the boundary between the formal and the informal.

Because of this, it's oftentimes difficult to pinpoint exactly where the changing demand accompanying population aging will fall in the health care system.

In addition, the dominant care requirements of an older population are for chronic, long-term care, not acute care services. This is important because the needs for long-term care can be satisfied in a variety of settings, the nursing home or in the community, and by a number of providers, many of whom do not necessarily need to be professionals.

The needs of impaired elderly, for example, 80 percent of whom live in the community, are today satisfied mostly by their families. This is an area of health care policy that's been relatively neglected to date. A good indication of this is that the 80 percent of families who are extensively involved in long-term care provision average 26 hours per week in care giving—the equivalent of at least a part-time job—but the vast majority of these caregivers to today's elderly provide extensive care without any reliance on or help from the formal delivery system.

If for no other reason than the increasing demands for such assistance within the older population and their caregivers, one of the major changes we're going to see I think is increased pressure for both vertical and horizontal integration of the health care system. Vertical in the sense of better integration between the hospital and the nursing home, for example, in discharge planning. This may come about without any legislative effort in the sense that the DRG's may necessitate this change.

But also horizontal—better integration of the family——

Representative SCHEUER. What was that achronym?

Ms. SOLDO. The DRG's?

Representative SCHEUER. Yes.

Ms. SOLDO. DRG's are "diagnostic related groups," part of a prospective payment system that limits Medicare expenditures for hospital stays for the elderly in particular.

Representative SCHEUER. It will save us a lot of time if you use the words and not the initials.

Ms. SOLDO. Sure.

Representative SCHEUER. And by that stratagem you won't pierce this illusion that I'm trying desperately hard to create that I'm a very sophisticated, well-informed Member of Congress.

Ms. SOLDO. Well, if you hadn't confessed you could have fooled me up to now. Sorry for piercing your illusion.

The integration that I'm speaking of will also I think require horizontal integration. By that, I mean within a level of need, for example, long-term care, we're going to have to figure out and develop new strategies for integrating family involvement into the overall provision of services for our elderly. This may take the forms of channeling, for example—channeling is a HCFA-sponsored demonstration that provides a single point of entry for elderly and their families into the health care delivery system. Unlike acute care where you can walk into a physician's office or an emergency room and have a point of entry into a full range of services, the elderly and more often the family today are faced with the very frustrating task of orchestrating the needed service package within the community.

Other hallmarks of a horizontal integration in addition to this kind of uniform case assessment strategy are: Case management where the needs of the elderly are tracked over time by an individual and supplemented and organized by a coordinating person; consistent eligibility criteria; and most likely expanded and reimbursible home care services.

The proprietary home care industry is I think poised for a growth spurt in the next 20 years that will parallel what we saw in the nursing home industry after Medicaid reimbursement was extended to that kind of care in the mid-1960's. How we structure that care has obvious and important implications, not simply for the budget but also for the individual.

Of particular concern is the issue of "skimming." Skimming is a situation where the provider chooses the least disabled within the eligibility pool and hence protects a profit margin in that fashion. The current trend, for example, in nursing homes to avoid admitting a labor-intensive Alzheimer's patient is a contemporary skimming problem.

This problem of skimming for the proprietary home care industry will be significant particularly in those parts of the country where very old people account for a large share of the population. Here in particular we may see problems in the Midwest with respect to this kind of issue.

I would be happy to talk at greater length about the involvement of the family in particular. I was fascinated that you were arguing earlier for greater involvement of the young elderly. In fact, a good number of them, about a third of today's caregivers, are young elderly themselves and are already informally involved in home care services, general personal care management for the very old.

I would be happy to answer any of your questions.

[The prepared statement of Ms. Soldo, together with an attachment, follows:]

PREPARED STATEMENT OF BETH J. SOLDO

IMPACT OF POPULATION AGING ON THE HEALTH CARE SYSTEM OF THE UNITED STATES

The rapid increase in the number of old and very old Americans will pose an unprecedented challenge to domestic policy over the next half century. This challenge will require that Congress balance the multiple needs of the elderly against societal resources over an extended period of time. In order to successfully meet this challenge, both the quantitative and qualitative aspects of population aging must be examined. Thus this Committee is to be commended for its thoughtful, integrated consideration of this unwieldy issue.

The preceding hearings in this series have undoubtedly alerted the members of this Committee to the major quantitative features of population aging: rapid, but uneven, increases in the number of Americans aged 65 and over; dramatic growth of the extreme elderly such that by the year 2000 those 80 and over are projected to be the largest single entitlement group in the U.S. (Torrey, 1984); and the predominance of women (mostly widowed) in the older age groups.

My comments this morning, however, are directed to a basic qualitative aspect of population aging -- the health status of the elderly and the impact of changes in the mix and distribution of health states for the health care system.

Future trends in the demand for or use of health care services do not follow directly from increases in the number of elderly or even in the number of extreme aged. A projected 150% increase in the number aged 85 and over does not necessarily imply a comparable increase in the number of frail elderly or in rates of hospital or nursing home use.

The reasons why simple interpolation logic fails us are important to the intent of these hearings. Old people make extensive use of health care services because they are sick, not because they are old. Even among the very oldest, there is a significant subgroup who are physically and cognitively intact. Recent research indicates that variations in mental and physical health at older ages are not due simply to chronological age in and of itself, but more to the effects over time of such factors as race, education, and socio-economic status which are associated both with health and with survival (Manton and Soldo, 1985a; Manton et al. 1986). We also are in a historically unique period in which we are seeing major and largely unanticipated changes in the incidence of disease and disability (e.g., stroke and cancer) as well as increases in survival at the later ages.

The implication of these findings for assessing the effects of population aging on the health care system is straightforward: changes in the age structure of the population alone provide unreliable guidance for policy making.

A second important consideration speaks directly to the role of Congress in plotting the effects of population aging on the health care system. Changes in the health status of the elderly are caused by and, in turn, cause major shifts in the age structures of the U.S. population as a whole and in the needs profile of future cohorts of older persons. Because the health needs of the elderly are due to disease processes, the health care requirements of a population will respond to the amount of resources allocated to disease prevention, treatment and palliation. Ultimately, the resource allocation decisions of Congress will influence the future course of old age mortality, life expectancy, and morbidity.

Policy makers are not hostages of demographic trends, but neither are all the intended and unintended effects of legislation necessarily easy to predict or contain. The Prospective Payment System, for example, was introduced to curtail Medicare expenditures for hospital care of the elderly. While the DRG's have accomplished this objective, length-of-stay targets also have encouraged earlier and, in some cases, the untimely discharge of ill patients to their own residences or nursing homes -- settings inappropriate for the delivery of acure care medical servies.

In sum, Congress' role is not a passive one in structuring the effects of population aging on the health care delivery system. But any proposed change must be carefully evaluated for the full range of its repercussions, both on the individual and the components that loosely make up our health care delivery system.

With these points in mind I'd like now to turn to the two major pieces of the puzzle: trends in the health of the elderly and effects of these trends in the health care delivery system.

For the published record of these hearings, I've submitted a detailed paper on assessing the health status of the elderly. Such a presentation is inappropriate for the limited time available this morning. It is, nonetheless, important to take note of the following summary points.

- Morbidity, disability, and mortality are inter-dependent processes. This is likely to strike many as a fundamental truism yet much popular attention has focused on the notion of disease-free death at a pre-programmed age; that is death could occur independent of pathology or accidental assults. This theory is appealing -- who among us would not like to believe that we could survive, vigorous and healthy, to the extremes of old age when normal "senescence" would cause death? The scientific evidence mounted to support this notion is hotly debated and unconvincing in my opinion. More important to the focus of today's hearing, it is unreasonable, and possibly irresponsible, to plan for a future in which the elderly will not generate extensive health care demands.

- *The linkage between morbidity, disability, and mortality is no mere academic debate.* If we can reasonably anticipate increases in life expectancy (which I and most demographers/epidemiologists believe we can) then we should see declines in rates of disability by age if the three processes are related in some fashion. The importance of this is demonstrated in Figure 1. The Baseline, or worst case, projection assumes no change in age-specific disability even as the number aged 85 and over increases, i.e., we assume projected increases in life expectancy are *not* associated with improvements in disability rates. In contrast the alternative, or best case, projections were prepared assuming a decline in disability proportional to projected mortality rate declines utilized in the Social Security Administration projections. In the alternative projections there are still real increases in the number of very disabled elderly (those with limitations in 5 or 6 of the Activities of Daily Living - ADL) but relative to the baseline series there are large declines in the numbers of persons expected to be disabled. There would be, for example, a 23% reduction for females aged 85+ in 2000 and a 34% reduction for comparably aged women in 2040. All told, there would be 1.4 million fewer disabled elderly, 85+, under the alternative scenario. Most likely there will be some improvement in health at advanced ages but not a perfect correlation as implied by the alternative. These projections indicate a probable upper and lower bound on the likely numbers of very old, disabled elderly, and hence bounds on the total volume of demand for long-term care services in the community.

- Disease processes and risks operate at the individual level; the policy impact is played out at the aggregate level. It is probable that in the future trends at the two levels will paradoxically move in opposite directions. The recent drop in mortality risks for diabetes, for example, has resulted in a 24% increase in disease prevalence (NCHS, 1984) and possibly, a greater prevalence in peripheral circulatory disease (Manton and Soldo, 1985b).

- The cure or elimination of specific chronic degenerative diseases would have untold benefits for individuals; the success of such efforts, however, may stimulate an increased demand for health care services. This is because individuals spared from one disease are at risk for other life threatening conditions, and possibly have even an elevated risk of other diseases. Thus, over time, the subgroup of intact elderly may shrink in relative size as more lives of frail individuals are spared until the eighth or ninth decade of life.

What changes in the demand for health care services can we reasonably anticipate as the population ages? At least four: one, upward shifts in the age structure of morbidity and disability as age at onset increases and rate of disease progression is better managed; two, some increase in disease/disability prevalence as technology and better disease management (e.g., the implanted insulin pump) allow affected individuals to live longer; three, potential increases in rates of those diseases having long latency periods, e.g., the cancers and some forms of cerebrovascular disease, since as life expectancy increases there will be added time for disease progression and, ultimately sympton manifestation; four, continued concentration of health care expenditures in the last 12-24 months of life even as the average age at death increases.

Changes in the health care needs of a population have an obvious, but not necessarily direct, effect on the volume of health care services produced and consumed in a society. If, for example, we assume that rates of disability will decline proportional to mortality reductions, the required per annum rate of nursing home bed construction may drop from 2.2% to 1.4% -- or by over 50% from 1980 to 2040. But this simple projection assumes no changes in the organization and financing of health care services for the elderly. It is exactly in these areas -- the organization, structuring, and financing of the health care system -- that the effects of population aging will be greatest.

I use the word "system" only by convention to describe the ad hoc, fragmented array of personal and medical services that often cross the boundary between informal and formal care.

Because of this it is difficult to pinpoint exactly where the changing service demand will fall. In addition, the dominant care requirement of older populations is a need for long-term, chronic; personal care. These needs can be satisfied in a variety of settings (community as well as nursing homes), by a number of different types of providers (non-professionals as well as professionals). As evidence of this, consider that there are two elderly in the community for every one nursing home resident with the same level of disability. The needs of impaired elderly in the community are today relatively neglected by the formal health care system. Such needs are satisfied primarily by the family who provide 80% of such care and average 26 hours per week in caregiving (Doty, 1986).

It is likely that Congress, HCFA and health care providers will come under increasing pressure to respond to the needs of the frail elderly and their caregivers in the community. This will require augmenting the medical model which now is the sole organizing principle of the health care system. A prime example of this orientation is embedded in Medicare reimbursement policies. At present Medicare covers physician-provided or -authorized services mainly in acute care hospitals. Nursing homes and community care services are reimbursed only in restricted circumstances when the service is expressly related to management of a specific medical condition or procedure, e.g., recovery from hip replacement surgery. Medicaid is less wed to the medical model but requires depletion of personal financial resources before elderly qualify for either home care or nursing home benefits.

The gap in service coverage is now filled by the informal network of family and friends. But even in the most committed of families, there is a limit to the personal and financial reserves that can be allocated to long-term caregiving. Yet such families seldom find in place the array of supportive community services necessary to sustain community residence and delay nursing home admission. In every area of the country the demand for home care services greatly exceeds supply. Even when services are available, price barriers limit access.

It is clear that as the population ages, the integration of medical and personal care services, formal services directed towards supporting informal caregiving, will be nearly inevitable. Such integration is mostly likely to be stimulated by revisions in Medicare and Medicaid reimbursement policies. Within the next twenty years, it is likely that care management, uniform assessment procedures, consistent eligibility criterion, and reimbursable home care services will be needed to meet the volume of demand for long-term care services. An offshot of such integration will be tremendous growth in the proprietary home care industry, an industry poised for a growth spurt that will parallel that seen in the nursing home industry after Medicaid coverage was extended to such facilities in the 1960's.

Reimbursement policies, however, will have to be carefully crafted to protect the elderly against "provider skimming," particularly in the wake of capitation restrictions. Obviously providers benefit under any capitation system by "selecting" to serve the least disabled within the eligible pool. The reluctance of many nursing homes to admit labor-intensive Alzheimer's patients is a contemporary skimming problem. Comparable issues will arise as innovative delivery systems, such as S/HMO's, evolve and will likely pose particularly acute problems in areas where the very-old account for a large share of the catchment population.

The increasing momentum for both horizontal and vertical integration of the health care delivery system will require more integrated planning efforts. The impact of any new health policy initiative must be ascertained not only with respect to extant health care programs but also those supporting income maintenance, housing quality, and community integration.

We also may anticipate ripple effects in the labor market as the health care requirements of the population change. The anticipated increase in the demand for geriatrically-trained physicians has already been recognized by the National Academy of Sciences and the curricula of many medical schools is being revised. More significant will be the increased demand for service workers who can provide labor-intensive but not necessarily training-intensive chronic, personal care. The problems of staff retention and turnover among relatively low-paid nurses aides who provide most of the hands-on care in nursing homes will be a problem for an expanding home care industry.

Finally it is important to take note of the other demographic trends that define the context of population aging. The demand for long-term care services will peak as the size of the labor force dwindles relative to the size of the older dependent population. Workers of the future will have more employment opportunities and are unlikely to be attracted to service-types of jobs unless pay scales and prestige are revised upwards. Other demographic trends (e.g., reduced fertility, continued sex differentials in life expectancy, and increasing rates of divorce) will at the same time inhibit the availability of family members for caregiving. Postponement of disability until the extremes of old age also will mean that adult children will confront parental care problems as they themselves are retiring and living off reduced and/or fixed incomes. In sum, issues of recruiting and and retaining sufficient health care workers may be a sizeable problem as the health care system adapts to changes in the volume, type, and mix of service demand.

Thank you, Mr. Chairman, for the opportunity to address the complex questions relating to population aging and the health care system. I will be happy to answer questions from you and other members of the Committee.

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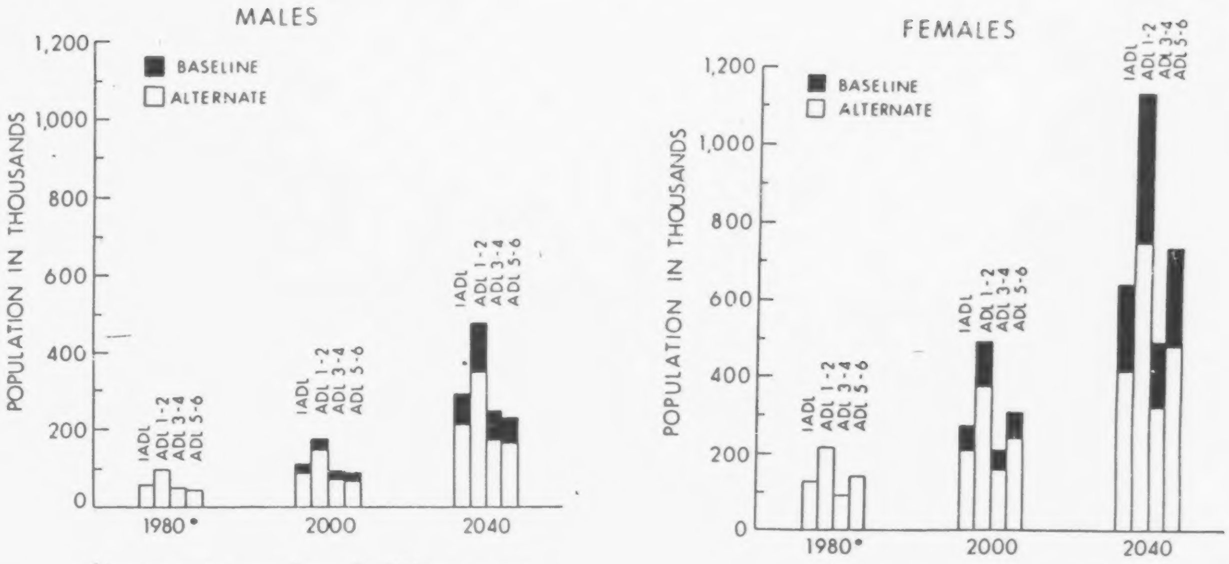
FIGURE 1
Baseline and Alternative Projections of Disability
in the Activities of Daily Living (ADL), for Males and Females
Aged 85 and older, 1980, 2000, and 2040



*Baseline and alternate figures for 1980 are the same

*Baseline and alternate figures for 1980 are the same

Source: Data from the 1982 National Long-Term Care Survey Reprinted from K.G. Manton and B.J. Soldo. 1985. Dynamics of health changes in the oldest-old: New perspectives and evidence. Milbank Memorial Fund Quarterly, 63(2): 206-285.

Health Status and Service Needs of the Oldest Old: Current Patterns and Future Trends

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CURRENT PUBLIC POLICY CONCERN WITH THE anticipated, rapid increase in the number of the oldest old is motivated, in part, by the potential impact of this trend on levels of federal expenditures, particularly for chronic care health services (Vladeck and Firman 1983; Fox and Clauser 1980; Freeland and Schendler 1981). A useful, albeit baseline understanding of such implications can be gleaned from relating the dynamics of demographic aging to current age-specific rates of use for various health services. Assuming no change in such rates for either morbidity or service use and only gradual, but sustained decline in rates of old-age mortality, by 2040 there would be a five-fold increase not only in the number aged 85 and over but also in the numbers of very old nursing home residents and the functionally dependent in the community (Manton and Liu 1984a; Rice and Feldman 1983; New York State Office of the Aging 1983). Put in terms of absolute numbers these changes would translate into an increase of from 2.6 to 13.3 million elderly aged 85 and over (Faber and Wilkin 1981), of whom slightly more than 4 million would require some type of personal care assistance in the community (Manton and Soldo 1985). Assuming sufficient growth in the supply of nursing home beds, those aged 85 and over

Milbank Memorial Fund Quarterly/*Health and Society*, Vol. 63, No. 2, 1985
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in such facilities could well number 2.7 million by 2040 (Manton and Soldo 1985).

In order to meet this demand, society would need to increase its production of long-term care services (LTC) from its current estimated base of 6.9 million to 19.8 million daily units of LTC services in 2040 (Manton and Liu 1984a). Although in 2040 persons aged 85 and over would account for only about one-fifth of the total elderly population (U.S. Bureau of the Census 1984) the very old would account for over half of the aggregate demand for all LTC services (Rice and Feldman 1983).

If current programs are not restructured, a major share of the costs incurred in meeting the future health care needs of the old and the very old would be borne by the public sector. Government programs (Medicare, Medicaid, and those of the Veterans' Administration) today absorb two-thirds of a $120 billion expenditure for the personal health care of those aged 65 and over. Nearly 75 percent of the government's total 1984 outlay of $80.5 billion was associated with the costs of reimbursable inpatient care for the elderly—$48.0 billion for hospital care and $12.1 billion for nursing home care (Waldo and Lazenby 1984). The costs of these inpatient services also have been growing at the fastest annual rate of any of the national health care cost categories (Freeland and Schendler 1983).

During the last seven years (1977 to 1984) the total costs of health care for all persons aged 65 and over have tripled. At the same time the relative share of the gross national product (GNP) allocated to these expenditures has increased from 2.3 to 3.3 percent (Waldo and Lazenby 1984). Historically, only a small share of the total increases have been attributed directly to growth in the size of the older age groups. Waldo and Lazenby (1984), for example, note that total health care spending by the elderly grew at an annual rate of 15.6 percent from 1977 to 1984 while the population aged 65 and over grew at the substantially lower rate of 2.3 percent per annum. Even the more robust growth of the segment of the population aged 85 and older (5.1 percent annually) is insufficient to account for the recent rate of increase in aggregate health care spending for the elderly.

But in the future, upward shifts in the age structure may have an effect on health care expenditure, particularly those for inpatient hospital and nursing home care (Rice and Feldman 1983), even beyond that anticipated from the sheer growth in that segment of our population that even now has the highest rates of chronic-disease morbidity and associated inpatient service use. This may occur for two reasons. First, the growth of the older age groups has been accomplished primarily by dramatic reductions in old age mortality (National Center for Health Statistics 1984) and consequent increases in the duration and prevalence of chronic-disease morbidity at the older ages (Golini and Egidi 1981; Verbrugge 1984; Manton and Liu 1984b). Second, increasing survivor heterogeneity of younger cohorts may result in increased prevalence of extreme disability and consequent demand for long-term care services (Manton and Soldo 1985). Thus, the impact of increasing numbers of the very old in the future is likely to be magnified by its relationship to other demand factors, including increases in the intensity and duration of health care needs at the oldest ages.

Previously, we argued that the failure to take into consideration the dynamic linkage between structural change in the age composition of the population and modifications in the underlying age-related risks of dependency may cause serious underestimation of the needs of future elderly (Manton and Soldo 1985). In this paper we take the argument one step further: The same factors that are likely to transform the needs profile of future older populations (e.g., cohort differentiation and succession) may also combine with system changes (e.g., in the coverage and eligibility restrictions of third-party payers) to alter the demand for specific kinds of health care services, particularly the mix of long-term care services required by the population. Our approach also follows from that developed in the first paper. In that paper we initially established individual variability among the oldest old with respect to physiological rates of aging and then related these differences to the dynamics of population aging. In that effort we drew on a life-table model to display the relationship between individual age-related risks and the aggregate implications of changes in risks, both over age and across time.

In the current paper we similarly begin by developing a baseline understanding of the interrelationships among age, health care needs, and patterns of health service utilization. We then identify those factors that mediate these relationships at present and suggest ways in which the process of cohort flow may alter the distributions of these factors over time. Subsequently, we extend the life-table model of individual risks and population aging to allow for differences in the ways in which health-related needs are satisfied. This formulation also provides an organizing framework for discussing changes in the structuring and coverage of various health care programs.

Our intent throughout these discussions is to focus specifically on the needs and patterns of health service use of the oldest old—those aged 85 and older. This has not been consistently possible, however. While those aged 85 and over are the fastest growing segment of the population and even now account for over one-third of all nursing home residents, this age group is but 1 percent of the total United States population at present (Rosenwaike 1985). Unless household surveys substantially oversample persons 85 years of age and older, there is often an insufficient number of cases for reliable estimates of characteristics for this important age group. Thus, at times it is necessary to present data with less age detail than desirable. Data pertaining to those 75 years of age and over, for example, are cited in some places in order to suggest the direction of age differences. As far as possible we also present estimates of standard errors to alert readers to potentially unreliable estimates that may compromise our interpretation.

Service Need, Use, and Age

The complex network of relationships linking age, health care need, and service use does not yield easily or neatly to analysis, no less to projections for long-range planning. In the behavioral model proposed by Andersen (1968; 1978) and his colleagues (Andersen and Newman 1973; Aday and Andersen 1974) use of health care services is seen as a joint function of the "need," "predisposing," and "enabling" characteristics of an individual. In this model, age is seen as a predisposing factor in that individuals of varying ages have differing patterns of illness which manifest themselves in terms of age-related patterns of health service use. Although this model was proposed as a general framework of service use, numerous investigators (e.g., Haug 1981; Branch et al. 1981; Coulton and Frost 1982; Wan and Arling 1983; Wolinsky and Coe 1984) have attempted to estimate the effects of the three sets of factors specifically on the use of physician and hospital services by the elderly. For this segment of the population, near universal Medicare coverage (Hatten 1980) substantially dampens the role of enabling (or resource) characteristics in predicting the elderly's use of community medical services. Using nationally representative data, Wolinsky and Coe (1984) have recently estimated that nearly two-thirds of the variance in the use of physician services and three-quarters of the variance in hospital utilization among those aged 60 and over can be uniquely attributed to the "need" variables. Furthermore, in these analyses, age was the only statistically significant, predisposing characteristic of the six included, but only for the equations modeling hospital use.

Static component projections consistently indicate, however, that the rapid growth of the older population in general and the oldest old in particular will have their greatest health service impact on the nursing home sector (Russell 1981; Rice and Feldman 1983). Unlike discrete medical needs, per se, the chronic care needs of the elderly can be satisfied in a variety of ways. Extensive personal care assistance, for example, can be rendered either in a nursing home by paid attendants or in a community setting by relatives, friends, or agency personnel. Exactly how a specific LTC service need is met is influenced not only by the availability of formal care alternatives and differential third-party coverage of these service options, but also by the availability of informal care arrangements. Thus, for understanding the implications of the anticipated growth of the segment of the population aged 85 and over for nursing home use, Donabedian's (1973) model of the medical care process may be more fruitful. In contrast to Andersen, Donabedian's framework allows for effects of both patient ("client") and provider behaviors, including nonphysician providers.

For purposes of projecting the health care needs and service-use patterns of the oldest old, Donabedian's model also calls attention to the importance of considering changes in the availability and capacity of informal care providers who now provide the bulk of personal care services in the community, without compensation, compulsion, and oftentimes outside service assistance (Manton and Soldo 1985). This strategy—identifying the underlying factors which give rise to currently observed relationships and probable-change scenarios in them—largely defines the logic and organization of the following discussion. This strategy also is obvious in our preceding paper in which age-specific risks of functional disability were related to the progression of underlying pathologies. Insights from these analyses highlighted the importance of incorporating notions of survival heterogeneity and morbidity-disability-mortality linkages into the development of health care policy for the oldest old.

Use of Health Services at Advanced Ages

It is a truism in the literature on aging that those 65 years of age and over disproportionately consume national health care expenditures and most types of health care services (e.g., Vladeck and Firman 1983; Fisher 1980). The force of this maxim is amplified for those aged 85 and over as suggested by the age-specific rates of use of selected health care services shown in table 1. Although rates of physician visits for those aged 65 to 69 and those 85 and over are not appreciably different (once again suggesting the relative insensitivity of this type of service consumption to increasing numbers of the oldest old), the rate of hospital days per 1,000 aged 85 and over is twice that of the young old. Rates of nursing home residents per 1,000 are 11 times higher for men aged 85 and over and 16 times higher for women of advanced age.

TABLE 1
Rates of Use of Selected Health Services per 1,000 Population, by Age and Sex

	Rates per 1,000		
Sex and age	Hospital days of care*	Physician visits**	Nursing home residents***
Male			
65–74	3,370.0	5,539.5	12.7
75–84	5,476.4	6,799.3	47.4
85 +	7,674.4	6,362.0	140.0
Total 65 +	4,243.9	5,925.8	30.7
Female			
65–74	2,977.3	7,018.7	15.9
75–84	5,009.0	6,524.8	80.6
85 +	6,598.9	5,677.8	251.5
Total 65 +	3,999.8	6,763.5	59.7

Source: Rice and Feldman 1983, table 4.
* National Center for Health Statistics, 1980 Hospital Discharge Survey
** National Center for Health Statistics, 1980 National Health Interview Survey
*** National Center for Health Statistics, 1977, National Nursing Home Survey

Aggregate data such as those shown in table 1 obscure, however, the concentrated service demand of the most disabled in any age group. Recently released data from the National Health Care Expenditures Study (NHCES) shows that, among those 65 years of age and over, those with limitations in usual activity were considerably more likely than those not limited to have experienced at least one hospital admission or ambulatory physician contact in the 12 preceding months (National Center for Health Services Research 1984). When such contacts were made, the activity-limited elderly also were more likely to make more extensive use of the service. In addition, those limited were more likely to use ancillary services (e.g., contact with nonphysician providers, prescription medications, and purchased or rented medical equipment and supplies). Although these data do not provide finer age breaks than for those 65 years of age and over, for establishing the direction of age differences, it is important to note that the differential in service contacts between the limited and the nonlimited narrowed in the groups aged 65 and older in contrast to differences among the nonelderly. This finding may, at least in part, reflect the elderly's access to third-party reimbursements through Medicare, Medicaid, or private insurance.

Nonetheless, the finding that those with manifest disability make the most intensive use of health care services is consistent with results from related research efforts. Lubitz and Prihoda (1984) have reported concentrated use and higher Medicare expenditures in the last two years of life when chronic disability is presumably most extreme. Zook, Savickis, and Moore (1980) also have provided empirical support for Gruenberg's (1977) proposition that, because of increases in the severity or duration of chronic morbidity secondary to chronic mortality declines, repeated hospitalization and physician contacts by a small subset of patients may have a "remarkable cost-multipler" effect. Local-area panel data provides even further evidence of concentrated service use of very few elderly, even in the oldest age group: over a five-year period, only 4 percent of those aged 85 and over accounted for nearly one-third of all acute hospital days, and 9 percent accounted for 57 percent of all acute and chronic care days consumed in this age group (Roos, Shapiro, and Roos 1984).

Thus, for policy making and planning, patterns of health service use defined in terms of broad age groups are insufficient for anticipating the health care requirements of increasingly older populations. Rather, identifying the characteristics of intensive service users among the oldest old and probable changes in their number over time may be more productive. We begin such an inquiry in the next section by examining the relation between health status and health care needs.

Health Care Needs of the Oldest Old

Health "status" is distinct from the "need" for health care services (Kovar 1980). The former concept refers to self- or physician-appraisal of physical and mental well-being, while the latter concerns the diagnostic, treatment, rehabilitative, or compensatory regime for supporting or restoring well-being once compromised. Although health "status" and health care "need" are linked as cause and effect, empirically relating one to the other is difficult because both are multidimensional. Health status at a single point in time, for example, summarizes the operation of multiple age- and/or time-dependent processes, both physiologic and pathologic, that differ in terms of duration, severity, and trajectory (Manton and Soldo 1985). Similarly, health care needs, in response to even a single pathology as manifest at a specific point in time, can encompass an array of medical and personal care services, environmental modifications, medical equipment and supplies, and medications.

Health status can be related to health care needs at either the individual or population level. For purposes of health care policy and planning, the aggregate relationship is obviously the more important, although any understanding at this level must accurately reflect biomedical linkages at the clinical level. In order to establish the health care requirements of a population, two general approaches may be considered. It is important to note that neither of these specifically operationalize "need." Rather, "need" is inferred from either the patterns of service use or the behavioral consequences of ill health, i.e., disability.

The first of these two strategies identifies primarily the medical needs of a population with a unidimensional index of health: the distribution and mix of disease states within the population. For the older population this requires attention primarily to the chronic diseases which affect 4 out of every 5 elderly in the community and nearly all of those in long-term care facilities (National Center for Health Statistics 1978). The most common chronic diseases of the elderly are shown in table 2.

These diseases are a heterogeneous collection of pathologies, ranging from only mildly uncomfortable conditions (e.g., chronic sinusitis), associated with minimal health care needs, to the life-threatening, chronic, degenerative diseases (e.g., malignant neoplasms and cerebrovascular diseases), associated with extensive inpatient care needs. This is particularly true in the year preceding the death of patients aged 65 and older when malignant neoplasms and diseases of the heart and circulatory system account for 84 percent of their hospital episodes (Lubitz and Prihoda 1984). In addition, these three chronic conditions, together with diseases of the nervous system and sense organs, account

TABLE 2
Top Fifteen Chronic Conditions Affecting Persons 65 Years of Age and Over: Number of Persons Affected and Rate per 1,000 Persons, by Age: 1981 (numbers in thousands)

	No. of persons affected		Rate per 1,000 persons		
Chronic condition	All ages	65 +	<45	45–64	65 +
Arthritis	27,283	11,548	47.7	246.5	464.7
Hypertensive disease	25,524	9,407	54.2	243.7	378.6
Hearing impairments	18,666	7,051	43.8	142.9	283.8
Heart conditions	17,186	6,883	37.9	122.7	277.0
Chronic sinusitis	31,036	4,562	158.4	177.5	183.6
Visual impairments	9,084	3,395	27.4	55.2	136.6
Orthopedic impairments	18,417	3,186	90.5	117.5	128.2
Arteriosclerosis	3,398	2,410	.5	21.3	97.0
Diabetes	5,500	2,073	8.6	56.9	83.4
Varicose veins	6,130	2,067	19.0	50.1	83.2
Hemorrhoids	8,848	1,637	43.7	66.6	65.9
Frequent constipation	3,599	1,472	9.2	22.4	59.2
Diseases of urinary system	5,689	1,395	25.8	31.7	56.1
Hay fever	17,874	1,290	100.2	77.5	51.9
Corns and callosities	4,290	1,290	14.0	35.8	51.9
Hernia of abdominal cavity	3,698	1,220	8.9	33.1	49.1

Source: National Center for Health Statistics, unpublished data reported in the U.S. Senate. Select Committee on Aging 1984.

for more than one-third of the elderly's visits to physicians' offices (National Center for Health Statistics 1980). The data shown in table 3 also indicate that the major chronic degenerative diseases convey substantial age-related risks of an alternative marker of health care need—disability. For both men and women, the six chronic degenerative diseases included in table 3 are consistently associated with higher rates of activity limitations for those 75 years of age and over than for younger age groups. The disability impact of cerebrovascular disease is particularly striking. At age 75 and over, 87 percent of males and 61 percent of females with this type of disease are restricted in their usual activity.

The disease-specific approach to ascertaining the care needs of a population is frequently dismissed as inappropriate to the elderly where multiple chronic diseases interact with each other and with age-related physiologic changes in determining health care needs (Besdine 1984; Minaker and Rowe 1985). The disease-specific basis for assessing health care need, however, is explicit in the World Health Organization's (1980) morbidity model and in the design of Medicare's prospective payment system (PPS) for hospital services. Under this system, hospital reimbursements per case are tied to 470 "homogeneous" diagnosis-related groups (DRGs), adjusted for patient age and facility location (Grimaldi and Micheletti 1983).

Employing a model that explicitly recognizes the relation of chronic degenerative disease to the need for health services also has distinct advantages for forecasting. Physical health-status changes due to well-defined pathological processes can probably be projected more reliably using epidemiological data, relations, and concepts of disease etiology than can the distribution of functional disability. Better forecasts of the future distribution of functional disability may be achieved by first forecasting physical health changes and then determining what those distributions imply for the level and mix of functional disabilities and service needs in the population. This consideration also argues for the adaptation of the standard "medical/epidemiological model" to assess the implications of functional status changes at later ages (World Health Organization 1983).

The second strategy for accomplishing population-based need assessment reflects a multidimensional functional understanding of health and the need for specific personal or supportive care services (Becker and Cohen 1984). Measures of functional dependency summarize the

TABLE 3
Prevalence of Selected Chronic Diseases and of Condition-related Disabilities, by Age and Sex: United States, 1980

Sex, condition and age	No. of persons with condition*	Percentage with condition	Percentage with condition who are limited
MALE			
Malignant neoplasm			
55–64	418,303	4.20	30.79**
65–74	500,938	7.72	54.48
75 +	269,404	8.96	72.02
Cerebrovascular disease			
55–64	205,978	2.07	79.82
65–74	330,980	5.10	87.15
75 +	290,507	9.66	86.86
Hypertensive disease			
55–64	2,447,523	24.55	27.02
65–74	1,945,281	29.99	55.88
75 +	846,963	28.18	72.24
Ischaemic heart disease			
55–64	674,777	6.77	49.06
65–74	455,933	7.03	68.23
75 +	351,203	11.68	76.40
Diseases of the upper respiratory tract			
55–64	1,780,606	17.86	22.13
65–74	1,114,449	17.18	41.83
75 +	445,974	14.84	61.35
Other respiratory diseases			
55–64	2,585,324	25.93	23.22
65–74	1,626,133	25.07	58.89
75 +	719,074	23.92	68.54
FEMALE			
Malignant neoplasm			
55–64	494,729	4.43	13.57**
65–74	352,518	4.06	44.51
75 +	353,401	6.67	52.95
Cerebrovascular disease			
55–64	223,728	2.00	62.01**
65–74	335,177	3.86	63.65
75 +	375,497	7.09	60.86
Hypertensive disease			
55–64	3,440,084	30.81	16.53
65–74	3,559,565	41.01	31.19
75 +	2,283,701	43.10	39.83

Table 3 (*continued*)

Sex, condition and age	No. of persons with condition*	Percentage with condition	Percentage with condition who are limited
Ischaemic heart disease			
55–64	389,620	3.49	35.95**
65–74	454,850	5.24	46.80
75+	342,878	6.47	55.13
Diseases of the upper respiratory tract			
55–64	2,848,186	25.51	9.87
65–74	1,925,907	22.14	24.82
75+	1,013,070	19.12	41.62
Other respiratory diseases			
55–64	3,217,022	28.81	14.47
65–74	2,254,001	25.97	34.81
75+	1,126,300	21.26	39.87

Source: Preliminary estimates from 1980 National Medical Care Utilization and Expenditure Survey (NMCUES) prepared by the Research Triangle Institute at the request of the Health Care Financing Administration.

* Population weighted estimates.

** Relative standard error equals or exceeds 30% of estimate.

behavorial consequences of disease in terms of capacities to perform basic "activities of daily living" (ADL) (Katz 1983). Deficient capacities are viewed as relating directly to the need for assistance, usually from another person, in carrying out such basic functions as eating, bathing, and dressing. As shown in table 4, community residents aged 85 and over have very high rates of functional dependency. Nearly one-half of all these oldest old are functionally limited in some way, and one in ten is extremely limited in self-care capacity. In addition, nearly 30 percent of all nursing home residents aged 85 and older are dependent in all four of the ADLs measured in the National Nursing Home Survey (National Center for Health Statistics 1981).

Although chronic-disease morbidity is most likely to be associated with functional disability at the extremes of old age, the correlations between age and either morbidity or disability may not be sufficiently strong to warrant the use of the age group "85 and over" as a proxy for service need in a population. This may be particularly true for those aged 85 and over today. For these cohorts, the process of selective survivorship may have already claimed persons most vulnerable to the

TABLE 4
Persons 65 Years of Age and Over Living in the Community with Functional Dependencies, by Age and Sex: 1982

Age and sex	Type of dependency				Total
	Only IADL limited*	ADL Score**			
		1–2	3–4	5–6	
65–74	4.5%	4.2%	1.8%	2.1%	12.6%
Male	4.2	3.4	1.7	2.4	11.7
Female	4.8	4.7	1.9	1.9	13.3
75–84	7.9	9.0	3.6	4.5	25.0
Male	7.1	6.5	2.5	4.6	20.9
Female	8.5	10.3	4.3	4.4	27.6
85 +	10.2	17.4	7.8	10.4	45.8
Male	9.9	15.7	7.7	7.5	40.8
Female	10.3	18.2	7.9	11.8	48.2
Total 65 +	6.0	6.6	2.8	3.5	18.9
Male	5.4	5.1	2.3	3.3	16.0
Female	6.4	7.7	3.2	3.6	20.9

Source: Tabulations from the 1982 Long-Term Care Survey prepared by the Center for Demographic Studies, Duke University.

* Need assistance with the instrumental activities of daily living (IADL): managing money, shopping, light housework, meal preparation, making a phone call and taking medication.

** Sum of the number of activities of daily living (ADL) with which respondent requires assistance.

chronic degenerative diseases that are associated with the highest levels of service need (Manton and Soldo 1985). The two population-based need-assessment strategies also are not fully adequate for identifying those with intensive service needs or suggesting future changes in the size or age distribution of this subgroup. These concerns assume even greater importance once the implications of individual variability in rates of aging are recognized and incorporated into program designs (Riley and Bond 1983). The "targeting" of limited health care resources to those most in need also is likely to become an increasingly important public concern as the eligibility criteria for program participation are reviewed for their cost-containment potential. Previous efforts have not been successful, however, in using a single-dimension approach (e.g., functional disability) to identify specific subgroups (e.g., those for whom home care services could prevent or delay nursing home admission) (Weissert 1981). Rather, it seems clear that effective targeting requires the identification of groups that manifest internal consistency in terms of both need and service use.

In the preceding paper (Manton and Soldo 1985, tables 14, 15) we presented an innovative empirical strategy for identifying subgroups with similar kinds of health care needs, using a multivariate classification method, "grade of membership" (GOM) analysis, based on "fuzzy set" theory (Manton and Woodbury 1984). This analysis isolated the following four homogeneous subgroups using information on sociodemographic characteristics and disability measures for functionally impaired community elderly aged 65 and older:

Group 1: Relatively young (mean age of approximately 73 years), mostly married individuals with low levels of both instrumental activities of daily living (IADL) and activities of daily living (ADL) dependency. This group was not distinguished by its association with any specific chronic disease or disease groups.

Group 2: Very old, unmarried women, free of ADL-kinds of dependencies but with substantial IADL needs. This group, while characterized by very low risks of chronic disease in general, was the most strongly associated of the four with glaucoma and hip fracture. The pattern of IADL dependency in the absence of ADL care needs also may suggest unmeasured cognitive impairment in this group since this group also is associated with a high prevalence of "senility."

Group 3: Relatively young individuals distinguished primarily in terms of their mobility limitations. Members of this group had an above-average chance of having Parkinson's disease, diabetes, arteriosclerosis, permanent numbness or stiffness in limbs, or circulatory difficulties. Persons in this group, while not bedfast, were likely house-bound to a considerable degree.

Group 4: A substantially disabled group, disproportionately married but not distinguished by age or sex. Persons in this group were nearly totally dependent in all ADL and IADL activities. This group was identified with paralysis, cancer, and "senility" and would appear to be the group with the most concentrated care needs.

In order to examine the homogeneity of these groups with respect to patterns of service utilization the GOM analysis was extended to include measures of health service use. Both the service-use variables shown and the morbidity variables used initially to derive the four groups are from the 1982 National Long-Term Care Survey (NLTCS), a household-based survey of functionally limited individuals aged 65 and over. The sampling frame for this survey, sponsored by the Health Care Financing Administration (HCFA), was the HCFA Health Insurance Master File. A telephone screen of 36,000 persons yielded 6,393 community-based residents aged 65 and over who reported being limited in either the instrumental activities of daily living (IADL) or the activities of daily living (ADL). Personal interviews were completed with 5,580 persons with confirmed limitations. The sample is nationally representative of approximately 4.6 million functionally limited elderly.

The probability distribution of selected service-use variables for each of the four NLTCS subgroups described above is shown in table 5. Column 2 of this table shows the marginal proportion of each health-service-use variable for the full sample; the other columns show the probability of persons in each of the four groups described above having each service-use characteristic. In general, the health service profile of each group is appropriate to the group's health status/need profile described above.

Persons in group 1, the least functionally dependent of the four, are light consumers of health care services. Of the four groups, group 1 members are the least likely to have ever experienced a nursing home placement or be wait-listed for one. These individuals are most likely to depend on but a single person, usually a spouse, to provide minimal informal assistance. In contrast, group 4, the most disabled, exhibits patterns suggesting intensive use of hospital and nursing home facilities and paid home care attendants. This group also is distinguished in terms of intensive use of informal care services. Persons in this group require assistance from more than one person to sustain their community residence.

While the service-utilization profiles of these two extreme groups are largely predictable from their disability profiles, differences in service use are perhaps of most interest for groups 2 and 3. Group 2 is the cluster distinguished by IADL dependencies, sensory impairments, and, we speculated, cognitive impairment. Although persons in group 4 are far more likely to manifest the extreme functional

TABLE 5
The Probability of Four Analytically Defined Subgroups Having Specific Service-utilization Characteristics*

		Pure type**			
Service-use characteristics	Sample proportion	Group 1: Minimal ADL or IADL dependency	Group 2: Substantial IADL dependency	Group 3: ADL + limited mobility	Group 4: Extreme ADL dependency
Living in community for older persons	0.086	0.072	0.086	0.152	0.019
Patient in nursing home at any time	0.072	0.024	0.084	0.061	0.153
On waiting list to go to nursing home	0.009	0.004	0.021	0.003	0.016
Patient in hospital overnight in last 12 months	0.364	0.274	0.192	0.404	0.576
HELPERS (INDIVIDUAL BINARY VARIABLES)					
Spouse	0.351	0.645	0.0	0.0	0.608
Offspring	0.446	0.109	0.818	0.579	0.487
Other relative	0.314	0.060	0.598	0.438	0.306
Friend	0.118	0.023	0.174	0.231	0.068
Others, unpaid	0.290	0.129	0.247	0.322	0.526
Paid helpers	0.253	0.118	0.195	0.295	0.449
NUMBER OF HELPERS					
None	0.050	0.155	0.0	0.0	0.0
One	0.378	0.649	0.220	0.296	0.220
Two	0.282	0.156	0.361	0.356	0.309
Three	0.157	0.033	0.224	0.212	0.212
Four +	0.133	0.007	0.195	0.136	0.259
TOTAL NUMBER OF DAYS PER WEEK HELPERS PROVIDE SOME ASSISTANCE					
None	0.117	0.298	0.007	0.064	0.0
1–5	0.214	0.278	0.013	0.461	0.002
6–7	0.336	0.364	0.369	0.294	0.322
8–12	0.174	0.037	0.315	0.127	0.315
13+	0.159	0.023	0.296	0.054	0.361

Source: Analysis of the 1982 National Long-Term Care Survey (NLTCS), a household-based survey of 5,580 individuals 65 years of age and over with limitations in either an activity of daily living (ADL) or an instrumental activity of daily living (IADL).

* Subgroups defined through Grade of Membership Analysis using 33 sociodemographic and health characteristics. All variables shown in the table, however, were external to the analysis.

** Consult text for more complete description of the need profile of each group.

disabilities usually associated with nursing home placement, the risk of admission is actually greater in group 2. An analysis of other group characteristics suggests that the nursing home risk of persons in group 2 may be largely a function of deficiencies in their informal support network while the risk for group 4 is more directly related to their care needs. In support of this interpretation note that persons in group 2 are uniformly unmarried women of advanced age (over half are 85 years of age or older). In the absence of spousal care providers, persons in group 2 are disproportionately dependent on offspring and other relatives for substantial daily assistance. Unlike the situation of those in group 4, the burden of informal care-giving is less likely to be offset by paid home-care-service providers. This finding suggests that restricting home care services under Medicare or Medicaid to only those with advanced ADL dependencies will screen out a group of individuals whose nursing home admissions may be effectively deterred through the introduction of intensive community services.

Group 3 is distinguished primarily in terms of mobility restrictions. While unlikely to be wait-listed for a nursing home, persons in group 3 are more likely than those in group 2 to have experienced at least one hospital admission in the preceding 12 months. In addition, the probability of living in a structured community for the elderly is greatest in group 3, although even in this group the probability is not substantial. Perhaps because of their residential patterns, these mobility-restricted persons are more dependent on friends and neighbors for assistance than those in any other group. In spite of this, individuals in group 3 are still likely to receive assistance from offspring and other relatives. The service-utilization profile that emerges for this group is one of moderately intensive care needs met by multiple helpers. Their profile also suggests the feasibility of using special equipment or appliances or modifying the built environment (e.g., removal of interior thresholds) as compensation strategies.

Thus, the four homogeneous need-based groups derived in the preceding paper also appear to be internally consistent in terms of health services utilization. For purposes of assessing the health and service requirements of older populations the analysis also calls into question the use of observed or projected age distributions to indicate the volume of demand for health care services. Of the four groups, only the second IADL-dependent group was distinguished in terms of advanced old age. Our results also highlight the importance of the qualitative aspects of aging, particularly living arrangements and the availability of informal care providers, in relating health status to the need for specific kinds of services, particularly long-term personal-care services. In the next section we consider in more detail how these qualitative factors condition the current demand for both formal long-term care (LTC) and nursing home services and how these factors may shape the future demand for both types of formal LTC services.

Qualitative Aspects of Aging and the Demand for LTC Services

At "low" levels of functional dependencies, the need for assistance is most likely to be satisfied in a community setting through the informal care-giving of family, friends, and neighbors (Cantor 1979). At "moderate" levels of dependency, the introduction of formal-care providers (e.g., home health aide) may be necessary to augment the care-giving capacity of the informal support network. At "advanced" levels of need, the benefits of a nursing home admission may offset the preference for continued community residence.

Because such generalizations provide little guidance for health care planning, considerable effort has been devoted to pinpointing precisely where along the need continuum these transitions occur. Most of this research has focused on predicting nursing home admission; only recently has the health policy research community turned to predicting use of formal services in the community.

Predicting Institutionalization

Numerous investigators have attempted to develop reliable algorithms that predict nursing home admission at the older ages. In surveying previous research in this area by way of introduction to their own longitudinal data analysis, Branch and Jette (1982) concluded that no one set of variables consistently differentiated nursing home residents from disabled community elderly. Neither age nor need (whether measured in terms of functional disability or medical condition), while statistically significant in most studies, uniformly correlated with the LTC setting. Data compiled by the 1980 Task Force on Long-Term Care shows that even among those aged 85 and over with substantial

ADL needs, there is at least 1 community resident for every 5 comparably disabled nursing home residents (Department of Health and Human Services 1981).

A majority of previous studies (including Branch and Jette's as well as more recent research by Weissert and Scanlon [1983]) identify as additional, significant predictors of institutionalization the absence of a viable informal support network and factors that are likely to undermine the care-giver's capacity or commitment to noninstitutional care. Among these latter factors are incontinence, need for nearly constant supervision, and the presence of cognitive impairments and/or behavioral problems (Smyer 1980).

For the very old, the effects of these conditions are compounded by the fact that their care-givers, even if adult children, are themselves likely to be elderly and experiencing some restriction in activity. This is particularly significant for very old women (the majority of whom are widowed) since they are considerably more dependent on offspring for care-giving than are men of comparable age and disability or younger, equally frail women. One in three care-givers to women aged 85 and older are adult children who contribute nearly half of all the supportive service days consumed by community-based ADL-dependent women in this age group (Manton and Soldo 1985).

Predicting Use of Community Services

The 1982 National Long-Term Care Survey indicates that about one-quarter (1.1 million persons) of all functionally restricted, community-based elderly receive some level of formal care services. The aggregate cost of these purchased services exceeds $99 million per month. Over three-quarters of all functionally limited elderly receiving such services finance all of the service costs out-of-pocket. Average, monthly out-of-pocket expenditures increase with age and disability, peaking at $466 per month for persons aged 85 and over with extreme ADL limitations (Manton and Soldo 1985).

The involvement of informal care-givers, however, minimizes the demand for formal or paid services in the community. Estimated probabilities of formal service receipt, by level of need, for disabled community-based persons aged 65 and over are shown in table 6. These probabilities were estimated under a logistic specification of data from the Home Care Supplement to the 1979 National Health

TABLE 6
Probability of Formal Service Receipt by Type of Living Arrangement and Need, for Those Women 65 Years of Age and Over, with Informal Supports*

	Type of living arrangement			
Type of need	Alone	With nonrelative	With spouse	With other relative
IADL need only	.17	.31	.08	.04
ADL need only	.27	.44	.14	.08
Medical need only	.31	.50	.17	.09
ADL & IADL need	.44	.62	.26	.14
ADL & medical need	.63	.79	.43	.27
ADL, IADL & medical needs	.78	.61	.44	.44
All types of need & incontinence problems	.84	.92	.71	.54
All types of need & supervision problems	.86	.93	.74	.58
All types of need & incontinence and supervision problems	.90	.95	.81	.68

Source: Analysis of the Home Care Supplement to the 1979 National Health Interview Survey reported in Soldo 1985.

* Logistic function (Probability (P) = $1/1 + e^{-xb}$) evaluated for modal group: white, ever-married women residing in central cities with annual family incomes of $5,000–$9,999 (in 1978 dollars) who did not participate in Medicaid in 12 months preceding interview.

Interview Survey (National Center for Health Statistics 1983). The complete variable list included multiple indicators of need as well as "enabling" and "predisposing" indicators. Age was not statistically significant after controlling for the need variables. The coefficent for receipt of informal care, however, was the largest of any of the 12 variables included in the analysis. Receipt of informal services decreased the logged odds of formal service provision by 3.3; in contrast, the next largest coefficient, for previous presence of medical needs, was but 1.5. Estimates are shown only for white, ever-married women with modal income, residence, and Medicaid status.

On one level, the probabilities shown in table 6 confirm the intuitively obvious—the more complex the service need the more likely is the receipt of formal services. Compared to either ADL or IADL needs, medical care needs are much more likely to stimulate the use of formal services. Perhaps of most interest for anticipating the service requirements of a population are differences in the service-use probabilities across different types of households. At any level of need, the probability of formal service is lowest for those elders who live with either spouses or with other relatives.

If one identifies the level of need at which formal service use is more likely than not (i.e., $P \geqslant .60$), the data in table 6 appear to provide strong support for the differential tolerance or threshold hypothesis advanced by Cantor (1981). For those living with nonrelatives, formal service use is more probable to occur once ADL and IADL needs combine; for those living alone, this threshold is defined as the point at which ADL and medical needs are present. Frail women cared for by their spouses, however, do not cross this threshold until incontinence problems add to the care demands associated with IADL, ADL, and medical needs. The threshold for those cared for by other relatives (most likely adult children) is postponed still further and does not occur until both supervision and incontinence problems combine with IADL, ADL, and medical needs.

Two competing interpretations are tenable for the seemingly higher tolerance of nonspouse family care-givers. Since spouses of dependent elderly are themselves often elderly and experiencing a decline in capacity and stamina if not disability per se, spouse care-givers may require back-up assistance from community services at somewhat lower levels of disability than younger, and presumably more vigorous, kin care-givers. The second interpretation takes into account the cross-sectional nature of the data and posits that formal services are less likely to be introduced into the homes of nonspouse care-providers simply because these relatives are more likely to have opted for an earlier institutional placement.

These findings also suggest that the volume of demand for formal services in the community will be influenced by the distribution of the disabled elderly across different types of living arrangements. A number of factors must be considered: change in intergenerational attitudes, and increasing incidence of divorce and male-female differences in old-age mortality. Allowing only for change in the age structure, however, Glick (1979) has projected continued increases in the number of elderly, particularly older females living alone. By 1995 he projects that, even among households headed by persons aged 75 and over,

over one-half will be headed by an elderly woman living alone. Thus, the increases in the demand for community long-term care services may far outpace the growth of even the disabled portion of the population aged 85 and over.

On face value, these findings seem to provide empirical evidence for the position that publicly subsidized LTC services could be reoriented away from their current institutional bias without incurring the costs of inappropriate service use. Aside from the obvious measurement problems (e.g., inferring volume of service used or demanded from simple service receipt), other considerations mitigate against drawing this definitive a conclusion. Price-demand elasticities, for example, may be very sensitive to level of need. Reductions in out-of-pocket costs of community services may not alter the service-utilization patterns of the frail elderly and the care-givers, for example, but as the price to the consumer declines, the total demand could increase from those with lesser needs. Reductions in price could then have the effect of shifting downward the level of need at which community services are used extensively. More important, long-term care needs, by definition, generate enduring service demands. Thus, cross-sectional data are inadequate for fully displaying the long-range implications of a national LTC policy that would emphasize community alternatives.

Modeling Service Substitution

Recently, Luce, Liu, and Manton (1984) proposed a general framework for research on long-term care issues, the evaluation of interrelated health policy initiatives, and models that project the need for LTC services. This framework lends itself to formulation of a number of basic policy issues, but perhaps the most general concerns the substitution of one type of service for another. Policies that implicitly or explicitly promote service substitution ultimately affect the quality, cost, and efficiency of care in a variety of ways.

A current expression of the service-substitution issue focuses on the question: Will increased public financing of home care services diminish private-sector efforts (Greene 1983)? The risk of widespread transference of home care responsibilities from the informal sector is seen as considerable, if only because of the increased labor force participation of women (the traditional care-givers to the elderly) and the implications of four-generation families for the age and vitality of potential caregivers (Treas 1977).

Before the issue of service substitution can be examined within the context of a life-table framework it is necessary to determine the age-specific prevalence of different limitations that might represent a need for specific services. In the preceding paper we presented survival curves of functional limitations as estimated from data on the noninstitutionalized disabled population in 1982 (Manton and Soldo 1985). As with other definitions of health status change, there is a natural aging imperative underlying such functional transitions. Further analysis also indicates that there are considerable differences in the trajectory of age-related declines in disability, however. We also noted that, although functional disability is assumed to be caused by specific pathological changes, different morbid states could generate similar age patterns of functional limitations.

The life-table model presented in Manton and Soldo (1985) also can be used to examine the service-substitution issue and especially age changes in the implications of substitution. In figure 1 we extend the basic survival-curve model to include hypothetical age-specific probabilities of various LTC service configurations and the transition from one level of service to the next. In this figure, age is shown on the horizontal axis. The probability (expressed as a percent) of a member of the initial, hypothetical birth cohort (the radix) surviving to a given age without experiencing a critical health event or health service transition is shown on the vertical axis. The partitioned area (A–F) under the mortality curve corresponds to person-year estimates of time spent in a particular state. For example, the area marked F represents, for the cohort, the number of institutionalized person-years. Areas D, E, and F together provide time-weighted estimates of the long-term care service requirements of a population. In the preceding paper (Manton and Soldo 1985) we made use of the life-table survival curve formulation to display the implications of various understandings of morbidity-mortality linkages at the older ages; here we use the survival-curve concept to clarify the implications of alternative LTC service policies.

In figure 1 we assume a hypothetical but typical sequence of LTC service providers. Initially, and at low levels of need, care-giving is the sole responsibility of the informal support network. Either as a time- or need-dependent function, the efforts of family and friends

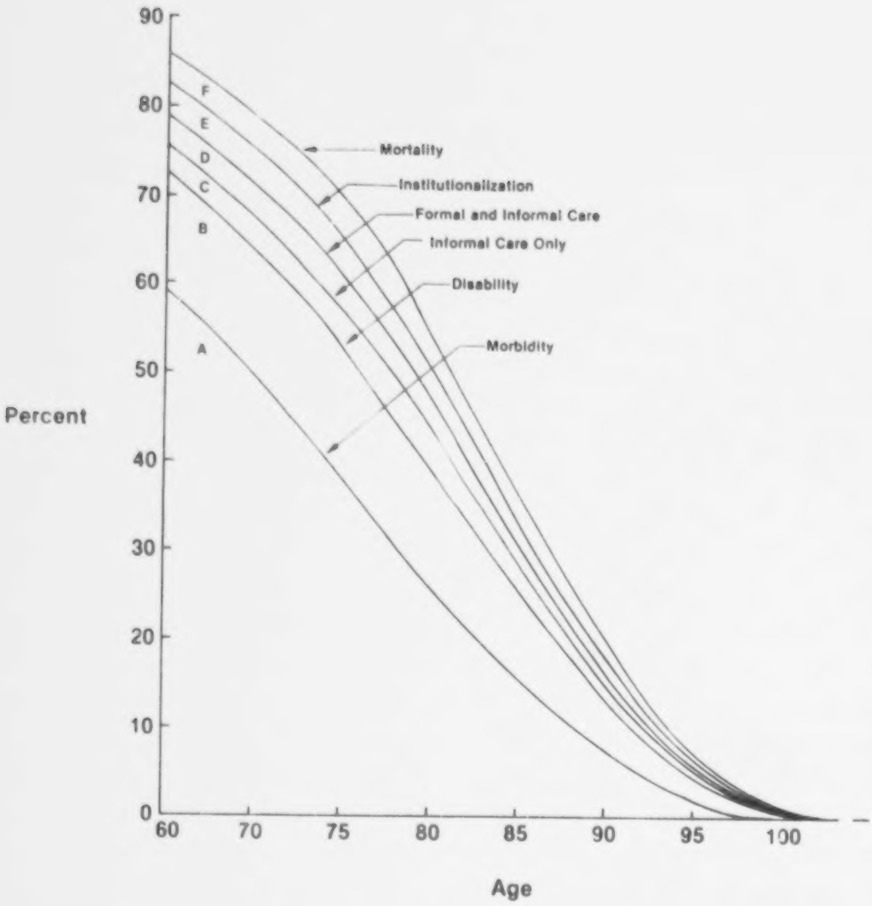

FIG. 1. The observed mortality and hypothetical morbidity, disability, and long-term-care service-use survival curves for U.S. females, 1980.

are augmented by services from the community, formal support network. As shown in figure 1, this mix of providers is most likely to occur at advanced levels of functional need or when medical care needs (e.g., physical therapy or regular injections) require expertise beyond the scope of family members. Ultimately, LTC needs may be satisfied only in an institutional setting.

Proposals now being considered are intended to alter the risk of specific service-use patterns at age *X* by shifting up the curve representing the risk of institutionalization and thereby increasing the number of disabled person-years spent in the community (Areas D + E). At issue in discussions of service substitution is how this time would be partitioned between reliance solely on the family and on a mix of informal and formal providers.

Figure 1 makes it clear that the service substitution question is not one of short-run transference of effort (which is probably inevitable) but rather one of long-run service-utilization patterns. If Medicare or Medicaid changes were to reduce price and supply barriers to formal services, the curve for the combined service use would probably shift downward. Formal providers would be introduced into informal caregiving arrangements at lower levels of disability. The consequences of this for policy would be expressed in the relative positions of the other service-use curves. If, for example, the curve for the risk of institutionalization were unaltered by new policy directives, the objective of cost-containment through reduced rates of nursing home placement would be defeated. If, on the other hand, the institutionalization curve were displaced upward, short-run service substitution would ultimately serve the long-range objectives of public policy. Increases in life expectancy, however, might leave untouched the average duration of nursing home stay even while the average age at admission increased.

It is not our intent in this paper to forecast the substitution effects of alternative program options or to make specific policy recommendations. Rather, the above discussion simply highlights some of the nuances of the emerging policy debate. In particular, bringing to bear the survival-curve concept on the substitution issue demonstrates that simple prevalence rates of service use, and changes therein, are an inappropriate basis for decision making. Both the costs and benefits of various service substitutions are best estimated in terms of their effects on person-years of use. The model also raises issues of possible increases in the size and changes in the age structure of the disabled population as old-age life expectancy continues to increase.

The model further illustrates the implications of the increase in the absolute or relative number of the disabled in the community. As the population ages, the disabled will not only be older and possibly require more services, but their informal care providers also are more likely to be elderly themselves. Such changes are likely to rebound on family life (Brody 1984) since, as shown in table 7, the probability of young-elderly (aged 65 to 69) women having at least one surviving parent aged 85 or older will more than double over the next 60 years. As they begin their own retirement and the idealized "empty nest" stage in the family life cycle, a substantial number of these women

TABLE 7

Probability of Surviving Parents at Ages 65–69 by Birth Cohort: Women Only

Birth Cohort	1921–1925	1926–1930	1931–1935	1936–1940	1941–1945	1946–1950
Forecast year*	1990	1995	2000	2005	2010	2015
Father alive	.026	.034	.039	.048	.054	.060
Mother alive	.140	.174	.196	.225	.234	.243
Either alive	.154	.197	.222	.257	.269	.281
Average expected number of surviving parents	.166	.207	.235	.279	.288	.303

Source: Wolf 1983.

* Year in which birth cohort will be 65–69 years of age.

in their late 60s are likely to confront the stressful care-giving demands of a least one parent or parent-in-law aged 85 or older.

Future patterns of community LTC service use will be shaped not only by changes in LTC reimbursement policies and the availability of informal care-providers but also by the functional disabilities manifested by the oldest old in the future. Static-component (i.e., constant rate) projections of functional dependency were presented by age, sex, marital status, and type of care-giver in the preceding paper (Manton and Soldo 1985, table 12). These projections—expressed in terms of extra hours of work engendered by care-giving—indicated substantial increases in the volume of informal service consumption for women aged 85 and over. Under the constant-rate assumption the total volume of such services would increase from 1.8 million care hours per week for married women aged 85 and over to 8.7 million in 2040. For unmarried women at the extremes of old age, an increase from 14.3 to 74.8 million care hours was projected. Furthermore, offspring were projected to provide over half of all care hours to women aged 85 and over.

These projections probably correspond to the "worst case" scenario in that at least some degree of morbidity-disability reduction should follow from the assumed gradual, but sustained decline in mortality. To allow for this, an alternative set of informal care projections was prepared in which reductions in age- and sex-specific disability rates are proportionate to declines in old age mortality. These projections are summarized for offspring helpers to women aged 85 and over in table 8. Although these alternative projections show increases over time in the volume of offspring-provided care hours, the rate of increase is slowed. Between 2020 and 2040, when the large baby-boom cohorts will begin reaching the age of 85, the rate of increase under the constant-rate assumption is 67.1 percent in contrast to 53.6 percent under the declining-morbidity assumption. Perhaps more important, the total volume of offspring care services projected under assumed-morbidity declines (27.4 million hours per week) is but 61.8 percent of that required by women aged 85 and over if morbidity remains constant (44.4 million care hours per week).

Together these two sets of care-giving projections likely represent the upper and lower limits in the volume of offspring services needed to sustain older women of extreme age in the community. These

TABLE 8

Aggregate Number of Offspring Helper Hours per Week[a] for Women, 85 Years of Age and Over: Estimate 1980 and Projections, 1990–2040, under Alternative Assumptions, by Level of Functional Dependency (numbers in thousands)

Year and morbidity assumptions	Type of dependency					
	Only IADL limited[b]	ADL score[c]				
		1–2	3–4	5–6	Total[d]	Percent increase[e]
ESTIMATE						
1980	1,480	2,529	1,424	3,073	8,506	—
PROJECTIONS[f]						
1990						
Constant	2,132	3,728	2,087	4,477	12,425	46.1%
Declining	1,739	3,048	1,706	3,656	10,149	19.3
2000						
Constant	3,278	5,691	3,192	6,859	19,020	53.1
Declining	2,395	4,175	2,339	5,022	13,932	37.3
2020						
Constant	4,584	7,962	4,465	9,595	26,606	39.9
Declining	3,074	5,362	3,004	6,447	17,887	28.4
2040						
Constant	7,714	13,236	7,446	16,050	44,447	67.1
Declining	4,752	8,202	4,607	9,916	27,477	53.6

Source: Analysis of the 1982 National Long-Term Care Survey and the National Opinion Research Center Survey of Caregivers prepared by the Center for Demographic Studies, Duke University.

[a] Total number of care-giving service hours provided by offspring for women 85 years of age and over.

[b] Needs assistance with instrumental activities of daily living (IADL): managing money, shopping, light housework, meal preparation, making a phone call, or taking medication.

[c] Sum of the number of activities of daily living (ADL) with which respondent required assistance.

[d] Totals may reflect rounding error.

[e] Percent increase in total number of offspring helper hours per week over last projection date shown, by morbidity assumptions.

[f] Projections labeled "constant" assume 1980 age- and sex-specific rates of IADL and ADL limitations prevail; projections labeled "declining" assume reductions in age- and sex-specific rates of IADL and ADL limitations proportionate to mortality declines forecast by Faber and Wilkin (1981). Both sets of projections assume projected mortality rate declines (Faber and Wilkin 1981).

projections, however, assume continued rates of offspring care-giving—an assumption that is likely to prove unrealistic unless offspring caregivers, primarily daughters, have access to a variety of home care services (Horowitz and Shindelman 1983).

Conclusion

In the preceding paper we argued for an interpretation of mortality-morbidity dynamics which anticipates further progress in controlling the rate of chronic disease progression and thereby reduces the severity of the chronic degenerative diseases manifest at any age. This understanding implies increases in the number of productive, nondisabled years of life but also any number of difficult tradeoffs between social and individual benefits. By postponing the age at death, we also may be postponing the period of intense service need until even later in the life cycle where fewer financial and/or family resources may be available to ameliorate the public costs of long-term care.

The dynamics of health status and life-expectancy changes have particular significance for the organization of long-term care reimbursement systems. The vertical integration of health services seems inevitable either as an implicit policy objective (e.g., the Long-Term Care Channeling Demonstrations [Carcagno and Kemper 1983]) or as a consequence of the DRG's effect on discharge planning (Brody and Magel 1983). Whether a person remains in an acute-care facility, is transferred to a nursing home, or is sent home with a specific service package will be governed, to some degree, by the relative benefits of different reimbursement policies for each type of service option. Clearly, this calls for careful coordination of reimbursement policies across service types. The need for various health care services is governed, however, by the health status transitions described in our life-table model. Thus, reimbursement policies also must take the imperatives of health status change into account.

The near inevitability of chronic morbidity and disability at advanced age means that there will be a natural evolution of the mix of services required by an aging population. This evolution of the maturing service needs of an aged population must be taken into account to ensure the long-run fiscal viability of integrated health service systems. Perhaps more important, this change must be factored into the design of health care policies if we are to avert creating major disincentives to providers to serve select subgroups of the oldest old population.

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Acknowledgments: The research reported in this paper was supported by a grant from the Commonwealth Fund, a National Institute on Aging grant no. AG01159, and a Health Care Financing Administration grant no. 18P-97710/04-4.

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Representative SCHEUER. When you say young elderly, you're talking about the over-65, 65 to 85?

Ms. SOLDO. In there, 65 to 75.

Representative SCHEUER. Yes; that's very interesting. Thank you.

Now Mr. Peter Morrison, take your 6 or 8 minutes and speak to us informally if you can, referring to anything you may have heard this morning from the prior witnesses or from myself and give us an overview of your thoughts and then when we finish with the other two witnesses we will have some questions for you.

STATEMENT OF PETER A. MORRISON, DIRECTOR, POPULATION RESEARCH CENTER, THE RAND CORP.

Mr. MORRISON. Let me say it's a pleasure to be here to address you and the subcommittee. My statement really focuses on the changing structure of American families as that structure relates to both ends of the dependency distribution, the elderly and children, and I have something to say in my prepared statement about both of these but I will simply summarize the implications of the changing demographic realities that are described in my prepared statement.

Briefly, I don't think I need to tell you that American families have undergone profound demographic changes and I think these demographic changes are going to drastically alter the background against which legislation is designed and implemented.

For my oral presentation I'm going to try to summarize a few of the implications that I see ahead based on some of the more technical discussion that I've given in my prepared statement.

These implications come under two hearings, the first of which has to do with accommodating the growing diversity of families.

It's important to recognize that the family structures through which legislation will be operating in the future are becoming more diverse and more complex. We have more nontraditional, single-parent families in our society. Traditional families are not enduring as long as they once did.

Just to give you a couple of ideas of where this diversity is coming from, we have more children being born to unmarried mothers, more childhood years being spent in fatherless families. Couples are marrying later. They are divorcing more quickly, and we have over half of mothers with preschool age children now in the work force compared with only 12 percent in 1950.

Representative SCHEUER. Would you repeat that statistic?

Mr. MORRISON. Over half of mothers with preschool children are now in the work force, roughly 53 percent, compared to only 12 percent in 1950.

Representative SCHEUER. That's quite a revolution.

Mr. MORRISON. It is a revolution, and I want to emphasize it's not women; it's mothers with children under 6.

Representative SCHEUER. You say it's not women?

Mr. MORRISON. It's not all women.

Representative SCHEUER. You're implying that some of them are teenagers and some of them are fairly young teenagers?

Mr. MORRISON. It's a very heterogeneous group, but the point is that the trend is often mistaken as one of women moving into the work force but mothers staying home. And mothers with young children have now converged in their behavior so we have as many mothers with preschool children as all women in the work force on a percentage basis.

Looked at another way, we don't have very many people at home to care for the young dependents, and with that many women in the work force we don't have as many women at home to be eligible to care for the elderly dependents, recognizing, of course, that I am applying here the traditional stereotype of women as the caregivers simply because that has been the way it has been in the past.

I want to finish off on the first implication by making one point about the majority of today's young children before I get to the elderly.

The majority of today's young children are going to be spending some part of their youth in a single-parent or blended-family situation, perhaps as many as two-thirds of white children who are now under 6 and as many as 19 out of 20 black children under 6 based on a continuation of current trends.

Representative SCHEUER. That's 95 percent?

Mr. MORRISON. Ninety-five percent of children who were born in 1980, the present 6-year-olds, looking ahead to their futures.

Representative SCHEUER. Will what?

Mr. MORRISON. Will spend some part of their life in a single-parent family situation. That is to say, be distanced from the economic support and care of one parent at some point in their life.

Representative SCHEUER. Sixty percent of white kids and 95 percent of minority kids.

Mr. MORRISON. Up to two-thirds of white children.

Representative SCHEUER. Up to two-thirds?

Mr. MORRISON. Yes; and that's a dramatic increase from what has prevailed in the past and there are some comparative statistics in my prepared statement that give you that kind of a comparative perspective.

This is part of why I emphasize my point that family structure is diversifying to an extent that may not be realized in the way we think about legislation today, which brings me to a second point.

Representative SCHEUER. Are you going to give us what you think is some of the public policy desiderata, let us say? What are some of the desirable public policy alternatives to meet these demographic changes you're describing?

Mr. MORRISON. I'm not sure I have a firm set of recommendations on that, but I do want to alert you to the fact that legislation is going to have to be thought through and designed much more carefully and with much more greater attention to the kinds of family structures that will exist in the future. And I've given a few examples here to make that point, which is basically that when you start talking about the responsibilities that are embedded in families and try to design legislation to enforce what we might call family responsibilities, it is going to be important to accommodate the diversity that lies ahead and, in particular, to draw that legislation carefully so that it does not become invalidated in courts of law.

It's going to be very difficult to fit the purposes behind this kind of legislation to these emerging realities.

And a general point here is that the kinds of responsibilities that exist across generations between the young and the elderly, the working age population and the elderly, will become far more complex and I think open to legal dispute because you will be dealing with a world in which there is a much higher proportion of reconstituted families with stepchildren and stepparents, half-siblings, and so forth.

Let me give you an example or two examples of the kinds of hypothetical problems that could arise given legislation that is either now in existence or under consideration.

Wisconsin recently enacted a grandparents responsibility or grandparents liability law which holds parents financially responsible for infants that are born to the unmarried children that they have under 18. The law is intended to reduce the number of teenage abortions and pregnancies by giving parents a larger stake in educating their children about sexuality and contraception. That is the stated intent of the law.

But the question that I have raised in my prepared statement is, What happens when a mother has been remarried for say a decade at the time that her unmarried daughter makes her a grandmother? Should the government impose a duty of support on the natural grandfather, the one who has been an absentee parent for the past decade; or should it impose it on the adoptive grandfather, the one who has played an active parental role; or should it impose the burden on both of them?

Representative SCHEUER. What does the Wisconsin law do?

Mr. MORRISON. It's only been enacted very recently and I read in the newspapers just a few weeks ago that they have finally encountered their first case and it was, in fact, a case of a grandmother and a grandfather who are no longer married. I don't know what the outcome of that has been.

Representative SCHEUER. Under the terms of the law, didn't they face up to some of these questions you describe?

Mr. MORRISON. I know that the grandfather who is the ex-spouse of the grandmother is paying something per month, as is she. I don't know any more about the circumstances, but I use it to illustrate the kind of circumstance that will arise in the future when legislation that is founded on traditional stereotypes of family structures is applied to the emerging family realities that we will encounter in the years ahead.

Representative SCHEUER. That legislation certainly is going to help concentrate some minds out there.

Mr. MORRISON. It does help to concentrate some minds. I'm not sure it's going to have the intent that lies behind it concerning reducing the number of abortions.

Representative SCHEUER. Well, maybe it will have the effect of reducing the number of unwanted pregnancies. I mean, if parents of teenage kids are going to be held responsible for the economic costs of those kids so that the kids won't become a ward of the State, don't you think that will help concentrate some minds of people in their 40's and 50's to make sure that their kids know how to control their fertility?

Mr. MORRISON. I think it will concentrate some minds.

Representative SCHEUER. Perhaps, if they can, to delay sexual activity entirely until it's appropriate in their lives, until they are at a point in their lives where it is appropriate. But in any event, if that's not possible, to make sure that the kids, whatever they do or don't do, know how to control their fertility. I think the State of Wisconsin would be wise to engage in some education efforts with the parents of teenage kids and say, "Here's something you can do that will not only benefit your kids enormously but will benefit you, by avoiding your having to undertake a very significant financial burden and by avoiding for your kids the terrible burden of an unwanted pregnancy."

An unwanted pregnancy for a 15-, 16-, or 17-year-old girl desperately threatens her education prospects, her job prospects, her marriage prospects. It's a real killer in terms of the quality of her life and the same thing goes for a boy. It's certainly going to be interesting to track the effects of that law.

Mr. MORRISON. Interestingly, it has been enacted on a 3- or 4-year experimental basis to see what effect it has.

Representative SCHEUER. And I hope they accompany it with a real education program aimed not only at the kids, who they probably can reach through the schools, but aimed at the parents too to show them how they can help their kids and also minimize what is a real economic risk for them.

Ms. SOLDO. At the same time, Congressman Scheuer, Wisconsin is one of the few States that also is experimenting with a law that requires middle-age children typically to contribute to the long-term care costs of their parents. We're having a situation now where, as Peter was pointing out, given the diversity in the family structures, you were setting up a situation where potentially the middle generation is responsible for both preceding as well as succeeding generations, all serving noble public policy goals but obviously sometimes in conflict with one another.

Representative SCHEUER. Yes.

Mr. MORRISON. My point here is one would hope that it would focus their attention on the problem rather than focusing their attention on finding a lawyer to defend what they felt was their——

Representative SCHEUER. Well, focusing their attention on avoiding the problem and jawboning with their kids on how you can avoid the problem.

Let me just state for the record, we have had a significant national and global study of teenage fertility and teenage pregnancy by the Gutmacher Institute. What it showed was this: that globally speaking, there are very few differences in teenage sexual activity, that the fantastic, unbelievable differences—let us say just in the developed world—in out-of-wedlock pregnancy rates among young teenagers, 13, 14, 15, or 16, results not from differences from sexual activity but in differences in how these young people cope with their sexuality and how they control their sexuality.

That, in turn, stems from how society copes with teenage sexuality and you have ranges all the way from our own country that has 95 pregnancies a year out of 1,000 adolescent girls, down to in the 30's, 40's, 50's for England, France, Germany, Belgium, down to the 20's in the Scandinavian countries, and down to 12 for Holland.

The case of Holland indicates a country that is really on the key beam, really at the cutting edge of enlightened social policy for its teenagers. And they say, "Look, delay sexual activity until it's appropriate for you, until it's right for your life. But in any event, if you want, for goodness sakes, control your fertility because having a child out-of-wedlock for you is a no-no."

As I mentioned before, it urgently threatens your education prospects which, in turn, an unfair education experience for you will threaten your economic prospects, your job prospects. And for a 15-, 16-, or 17-year-old girl to have an infant—an infant having an infant—threatens your marriage prospects.

When society sends this message to its kids and deals in an upfront, candid, honest, enlightened way with teenage sexuality, kids tend to respond and you have that incredible difference in teenage out-of-wedlock pregnancy rates between two advanced countries—the United States, with 95 pregnancies out of 1,000 teenage girls every year, and Holland with 12. And it cannot be explained by differences in teenage sexual activity. It can only be explained in terms of how society deals with that problem and how society encourages its young people, both boys and girls, to deal with their own sexuality.

And in this case, we have to say that our present public policy in terms of teenage sexuality is an abysmal failure. How else can you justify a rate of out-of-wedlock pregnancies for a developed country seven or eight times that of a comparably developed country?

Excuse me. I didn't mean to really interrupt.

Mr. MORRISON. Well, this is a good illustration of the kind of problem that will arise as legislation with an intent to deal with the problem encounters the more complex family realities that will exist in the future.

And I have another example here which I wanted to offer which deals with the other end of the age spectrum, and it has to do with legislation that is now under consideration, as I understand it, that would require the children of Medicaid recipients to help pay for nursing home care provided their parents and, in particular, legislation that would deny Medicaid benefits to people who need long-term care if their parents or spouses were judged to be financially able to defray some of the costs, even if it might be at the expense of another family member, perhaps a disabled family member.

Let's consider the following situation. Suppose you have an unmarried woman with minor children, one of them handicapped and one of them headed for college. She plans on marrying an older man who develops a chronic health condition that's going to require ongoing long-term expensive care for the rest of his life. She allows him to adopt her children when they get married. By doing so, she legally obligates those children to share in his medical costs—no Medicaid until the trust funds which she and her first husband set up for those children, the trust fund to care for the disabled child, have been exhausted in order to care for the medical expenses of her new elderly husband.

I present this as a hypothetical situation that could arise to illustrate the kinds of complexities that could develop and I guess my point here again is that the children probably would need a lawyer rather than a mother to represent their interests.

Let me turn to my final point which concerns the demographic assumptions that we're making about the future and to some extent this relates to the testimony that Mr. Penner gave earlier this morning.

The long-range demographic assumptions on which legislation is premised are extremely important and they need to be scrutinized impartially and carefully because there is a risk that they can invite a false sense of security. I think the financing of the Social Security System illustrates this point.

There are long-range financial imbalances that may lie in the future and these imbalances can be made to appear or disapper simply by changing one's demographic assumptions. I won't go into the details of why I say this, but I will simply state that I believe the present assumptions as set forth in the 1986 Social Security trustees' report, the present demographic assumptions, are overly narrow in what they envision. I think they invite a false sense of security and I think they need to be revised.

And this point raises a more general concern I have with the vulnerability of these inherently technical demographic assumptions, their vulnerability to misspecification.

We now have a substantial body of scientific knowledge at our disposal. We have a substantial amount of demographic expertise at our disposal, thanks in large part to research that has been funded by the NICHD. It seems to me that this impartial knowledge and advice ought to be at the disposal of the Congress and the one recommendation that I would make is that you institute a thorough and ongoing reappraisal of the demographic assumptions that underlie the long-term forecasts on which you rely.

I think these assumptions are critical for shaping not only our view of families but our view of the dependency relationships and the imbalances financially that are emerging from the kinds of statistics that we looked at this morning. The assumptions have to be realistic. They have to be up to date and they have to be formulated impartially. Thank you.

[The prepared statement of Mr. Morrison follows:]

PREPARED STATEMENT OF PETER A. MORRISON

CHANGING FAMILY STRUCTURE:
WHO CARES FOR AMERICA'S DEPENDENTS?

PREFACE

Testimony prepared at the request of the Subcommittee on Economic Resources, Competitiveness, and Security Economics of the Joint Economic Committee of Congress, and given at its July 31, 1986 hearings in Washington, D.C.

This statement draws on research supported by Center Grant P50-HD12639 from the Center for Population Research, National Institute of Child Health and Human Development, DHHS. The author thanks Frances K. Goldscheider, Will Harriss, Anthony Pascal, James P. Smith, and Linda J. Waite for comments on earlier drafts. Views and conclusions expressed here are the author's own, not necessarily those of Rand or of agencies sponsoring its research.

SUMMARY

This testimony reviews several ongoing demographic changes in families and considers their implications for legislation. Those changes include: the growing instability of contemporary families; their increasingly diverse, often nontraditional, forms; the altered social settings and economic circumstances affecting children; and the lengthening of life expectancy among older Americans.

In view of these changing demographic realities, it is essential that future social legislation accommodate the growing diversity of families and be premised on technically sound demographic assumptions about the future. The following implications are noted:

1. *The family structures through which such social legislation operates will become increasingly varied and complex in the future.*

Nontraditional (single-parent) families are becoming more common, and traditional families are not enduring as long as they once did. Proportionally more children than before will spend some part of their childhood in a single-parent or blended family.

2. *To be workable, future legislation intended to enforce "family responsibility" will need to accommodate that diversity and complexity.*

The majority of today's young children will, at some stage of their youth, become distanced from the economic support and care of one of their natural parents. Fitting the purposes behind "family responsibility" legislation to the realities of contemporary families will be fraught with potential unintended consequences. Filial, parental, and grandparental responsibilities will become more complex and open to legal dispute as reconstituted families (containing stepchildren, half-siblings, and stepparents) become more prevalent.

3. Through population aging, the income security and health care needs of the elderly may increase more than Federal planners now envision.

To remain solvent in the next century, the Social Security system will have to squeeze more dollars out of a slowly growing or possibly shrinking work force to pay benefits to a swelling number of retirees who were born during the baby boom. Future fertility levels will influence the size of the work force; future life expectancy will affect how long retirees continue to receive Social Security benefits. Present assumptions about these two demographic variables (as set forth in the 1986 Social Security Trustees Report) are overly narrow in what they envision, and need to be revised.

4. The long-range demographic assumptions on which legislation is premised need careful and impartial scrutiny because they can invite a false sense of security.

It would be wise to institute a thorough and ongoing reappraisal of the demographic assumptions underlying the long-range forecasts the Congress uses. Those assumptions are critical in shaping Legislators' views of families and of emerging future dependency relations. They must be realistic and up to date, and they must be formulated impartially.

I. INTRODUCTION

American families have changed profoundly in the past two decades. As a result, legislation that once operated through families now confronts a drastically altered background: couples divorce, single women bear children, old people live alone, and "blended" families bring together children of two marriages. Family members' responsibilities to one another become hard to define and enforce through legislation based on traditional views of what the family should be like, but no longer is.

Population researchers have been analyzing these changes and what they imply for the future. My testimony today will highlight certain points (drawn largely from studies sponsored by the NICHD's Center for Population Research) and consider their implications for legislators. Those implications are grouped around three salient themes:

- Certain long-range demographic transformations now under way are eroding families' capacity to meet some of their dependent members' needs. For example, as more marriages end, more children get distanced from their fathers and the economic support they could provide. As more mothers enter the work force, fewer adults remain at home to care for young children or ailing parents.
- The same demographic changes are altering and clouding traditional notions about family responsibilities, which past legislation has often been intended to reinforce. As "blended" families become the norm, responsibilities between

family members become complex, ambiguous, and more open to dispute.

- Our conception of family life--and of social legislation intended to operate through families--must allow for its growing diversity.

II. OVERVIEW OF CHANGES UNDER WAY

Fewer and fewer American families conform to traditional stereotypes. They are more diverse and less stable now than ever before. More children are born to unmarried mothers, and more childhood years are spent in fatherless families. Couples marry later and are quicker to divorce. Fully 54 percent of wives with preschool-age children are now in the work force (only 30 percent were in 1970). Some couples who are nearing retirement age are finding themselves caring for both an elderly parent and a divorced daughter with her children.

Nearly all of us have encountered such instances in our daily lives, but we may be less aware of the statistical realities, the most noteworthy of which center on:

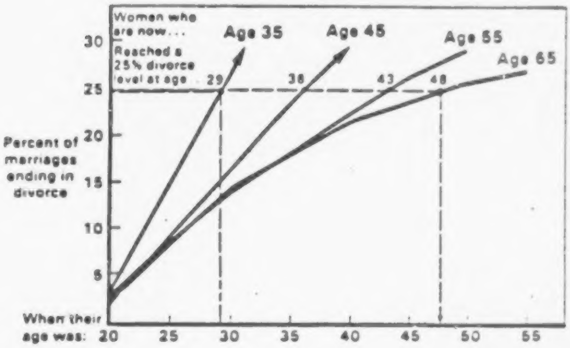
- The instability of contemporary families;
- The increasingly diverse, often nontraditional, kinds of families that are being formed through remarriage and out-of-wedlock childbearing;
- The social settings and economic circumstances surrounding today's children;
- The lengthening of life expectancy among older Americans.

THE INSTABILITY OF CONTEMPORARY FAMILIES

Perhaps the central factor affecting the link between families and their dependents is marital dissolution. This is more than a matter of high divorce rates; recent research also confirms a pronounced shift in the pattern of divorce. Younger couples today not only divorce more readily, but also do so earlier in their marriages, as illustrated in Fig. 1. One quarter of the marriages contracted by women who are now in their mid-fifties had broken up, on average, by the time they reached age 43. Children of these marriages were likely to be grown. But consider a woman now in her mid-thirties. For her generation, a quarter of all marriages had already ended by age 29, when any children involved were young. Marital disruption thus tends to affect everybody--mothers, fathers, and children--much earlier in their lives. Consequently, contemporary children often spend part of their youth in single-parent families and thereafter enter "blended" families, along with stepparents and stepbrothers and sisters.

Figure 1

MORE MARRIAGES END IN DIVORCE



Source: Schoen et al (1988)

Fig. 1 -- More Marriages End in Divorce

The level and pattern of divorce today foreshadows a future in which the majority of first marriages will end that way. For example, 56 percent of first marriages by women who were aged 35 to 39 in 1985 are projected to end in divorce (Fig. 2).

Those are certainly not easy problems for legislators to deal with, especially if the aim is to encourage or even to mandate the shouldering of family responsibilities. Ambiguity is rampant. Is a father equally responsible for his natural children and his stepchildren--and they for

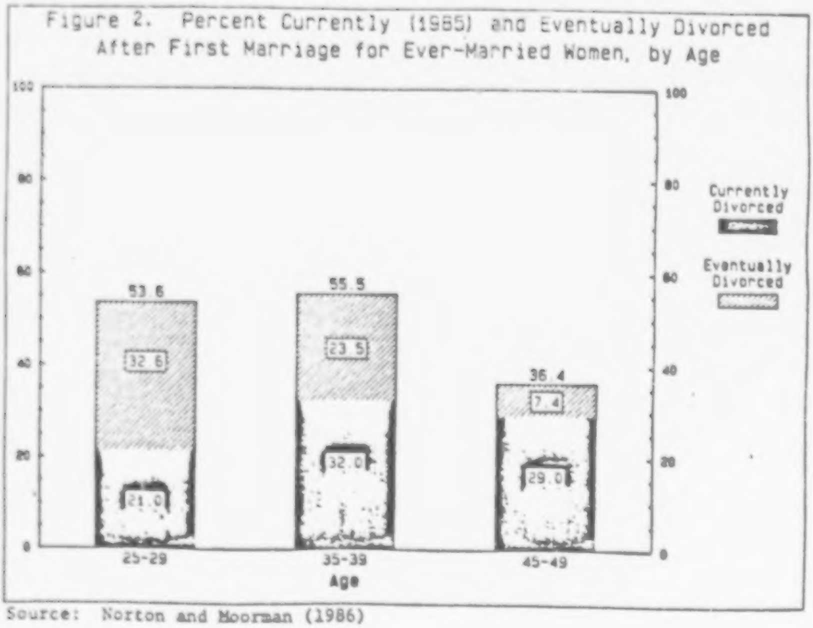


Figure 2. Percent Currently (1985) and Eventually Divorced After First Marriage for Ever-Married Women, by Age

Source: Norton and Moorman (1986)

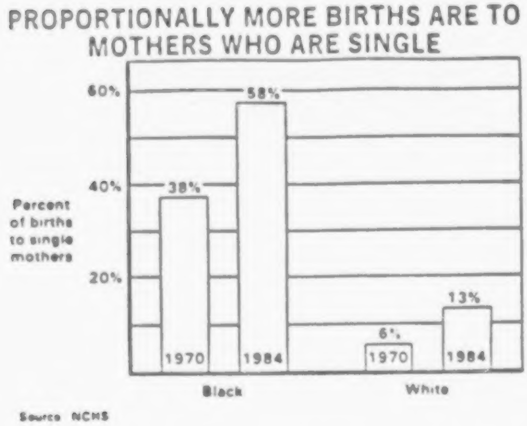
Fig. 2 -- Percent Currently (1985) and Eventually Divorced After First Marriage for Ever-Married Women, by Age

him, if the law mandates that children must help pay for their parents' nursing home care? Which parents? What children? To what extent? And why?

FORMATION OF NONTRADITIONAL FAMILIES

"Blended" families are certainly not the only departure from old norms. A more disturbing departure is out-of-wedlock childbearing. Unmarried women gave birth to 770,000 babies nationwide in 1984--21 percent of all births that year, and the highest fraction ever recorded in the nation. This varies sharply by race and has risen substantially since 1970, as seen in Fig. 3.

Figure 3



Source NCHS

Fig. 3 -- Proportionally More Births Are to Mothers Who Are Single

Both accident and intent are involved in the increased formation of these nontraditional families. Typically, young teenage mothers become pregnant accidentally, and their odds of doing so depend heavily on how soon (if at all) they begin using contraception effectively. (Teenage women commonly put off informing themselves about contraception for quite a while after they become sexually active--very nearly a year, by one estimate.)

Once, many teenage mothers would have married, but their numbers have dwindled in recent years. Today's teenage mother often shuns marriage as the risky proposition it is, and instead launches her own single-parent family. The man who fathered her child may seem a poor prospect as a provider.

Most of today's single mothers are not teenagers, though. Increasingly, they are mature single women--white women, unmarried, in their early thirties. (Such women have been giving birth at rates nearly 60 percent higher than a mere six years ago.) The explanation revolves around delayed marriage, greater economic self-sufficiency on the part of single adult women, and a stronger desire for a child than for a husband.

As social patterns of reproduction change, the ability of the resulting single-parent families to care for their children becomes a matter of serious public concern. The families formed by teenage single parents are the most problematic because of their public sector costs[1] and the risks they impose on children. The prenatal and postnatal care such children receive is deficient; they are less likely to gain the biochemical and immunological health benefits conferred through breastfeeding; and they are more prone to poverty.

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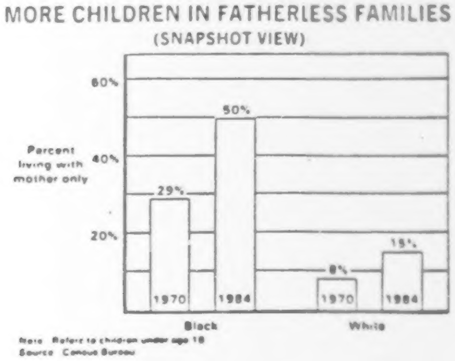
[1] For families on AFDC that began with a first birth to a teenage mother (single or married), the one-year 1985 combined costs of AFDC, Medicaid, and food stamps is estimated at $16.65 billion. Source: Burt (1986).

FAMILY STRUCTURE AND THE LIVES OF CHILDREN

Recent demographic research has traced how family instability and the formation of nontraditional families are altering children's experiences in families. We can chart those experiences statistically and, using carefully formulated assumptions, gain insights into the increasingly complex life-courses that children will encounter in the future.

With more children being born to unmarried couples and to couples whose marriages subsequently dissolve, children increasingly live with only one parent (typically the mother). Figure 4 displays this

Figure 4



MORE CHILDREN IN FATHERLESS FAMILIES
(SNAPSHOT VIEW)

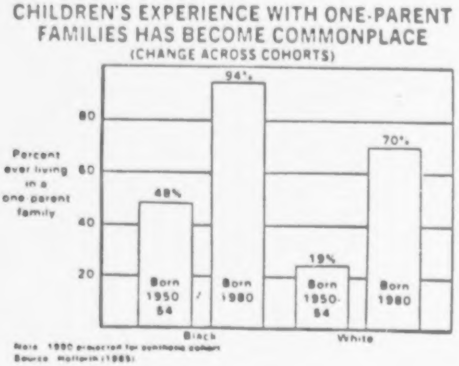
Note Refers to children under age 18
Source Census Bureau

Fig. 4 -- More Children in Fatherless Families

increase, but affords only a snapshot of children in families at several successive timepoints; many other children who once were in such families are now members of reconstituted two-parent families. Posing the question differently, we can ask: How many children ever experience life in a single-parent family?

Looking back at the generation of children born in 1950-1954 (who are now adults in their mid-thirties), 19 percent of the whites and 48 percent of the blacks spent some part of their youth in a one-parent family (see Fig. 5). Those figures will be much higher for the generation born in 1980, assuming that current trends continue. Among this year's six-year-olds, as many as two out of three white children and 19 out of 20 black children may spent part of their first 18 years in a single-parent family. (Other plausible assumptions, of course,

Figure 5



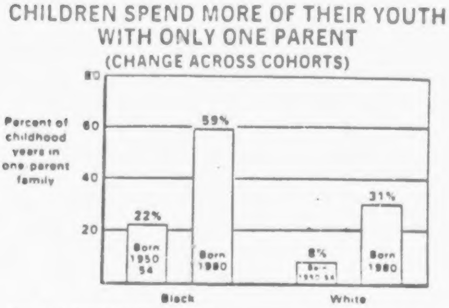
Note 1980 projected for synthetic cohort
Source Hofferth (1985)

Fig. 5 -- Children's Experience with One-Parent Families Has Become

could imply somewhat lower levels.)[2] One reason these figures are so high is that a substantial fraction of children in the mid-1980s start life out being born to a single parent.

Under these same assumptions, we see in Fig. 6 that the average child's stay in a single-parent family is not brief. These white six-year-olds would live 31 percent of their youthful years with one parent (compared with 8 percent for whites now in their mid-30s); today's black six-year-olds would live 59 percent of their youth with one parent (versus only 22 percent for blacks before.)

Figure 6



Note 1980 projected for synthetic cohort
Source Hofferth (1985)

Fig. 6 -- Children Spend More of Their Youth With Only One Parent

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[2] See: Bumpass (1984); Norton and Glick (1986).

INCREASING LONGEVITY IN OLD AGE

The United States has entered a historically unique era of population aging, during which older Americans will become more numerous and will live longer than ever before. The full force of these impending shifts will occur during a short period of intense change commencing 26 years from now in the year 2012, when the large baby boom generation will start turning 65.

Currently, some 28 million Americans are 65 or older, and make up 12 percent of the population. By the year 2025, the elderly population will number 59 million and make up 19.5 percent of the population--2 percentage points higher than the elderly's share of Florida's population today. Nationally, the fraction may peak at around 22 percent by the middle of the 21st century.

Population aging will also concentrate older persons at the more extreme elderly ages, where chronic health conditions become more prevalent and activity limitations increase the need for long-term care. People over age 85 now make up only 9 percent of all the elderly, but their numbers will grow to 13 percent by 2025 and peak at 24 percent by 2050. This increase in the extreme elderly population means that older persons will be more likely themselves to have a surviving parent, furthering the emergence of the "two-generation geriatric family". Indeed, four- and five-generation families will become more common as the number of co-existing generations expands.

The sheer size of the baby boom generation is the major foreseeable factor behind these changes that are in store. However, the lengthening expectation of life among the elderly will further swell the ranks of the extreme elderly, increasing dependency needs disproportionately. In 1960, an average 65-year-old person could expect to live 14.3 more years. That figure represented a 2.4 year gain since 1900 (see Fig. 7). By 1985, that figure had risen 2.5 years further, to a life expectancy of 16.8 more years. The gain over just the past 25 years, then, exceeds the gain of the first six decades of the century. Improved access to medical care, new health technology, life style changes, and a widespread concern with physical fitness may have all played a part.

How much farther will the life expectancy of future older Americans extend, and how rapidly? How much more (or less) will those added years be burdened with the chronic and disabling health conditions that presently manifest themselves at these ages? These and several other demographic uncertainties must now be weighed cautiously, for they will carry massive implications when the baby boom generation reaches this age range.[3]

Such uncertainties pose an important general point (to which I return below): How the technical demographic assumptions, on which Congressional views of the future are premised, get formed and revised as the future unfolds.

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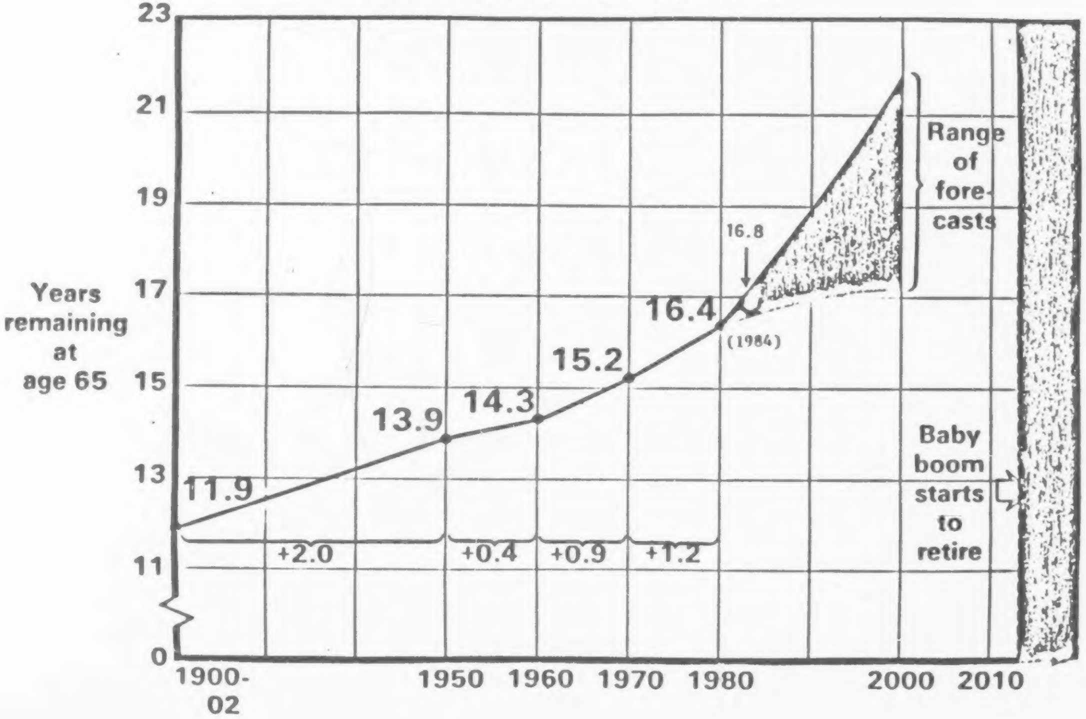
[3] There is a modest, rapidly expanding demographic literature on these points. See, for example, Crimmins, 1983; Manton and Soldo, 1985; Vaupel and Yashin, 1985; Verbrugge, 1984.

Figure 7

LIFE EXPECTANCY AT AGE 65: TRENDING UPWARD



III. IMPLICATIONS

Let me now summarize the major implications of these changing demographic realities. They center on two broad concerns: First, accommodating in future social legislation the growing diversity of families; second, ensuring that Congressional views are premised on technically sound demographic assumptions about the future.

ACCOMMODATING FAMILIES' DIVERSITY

1. *The family structures through which much social legislation operates will become increasingly varied and complex in the future.*

Nontraditional (single-parent) families are becoming more common, and traditional families are not enduring as long as they once did. The majority of today's young children will spend some part of their childhood in a single-parent or blended family, distanced from the economic support and care of one of their natural parents.

2. *Future legislation intended to enforce "family responsibility" will need to accommodate that diversity and be carefully drawn to avoid invalidation in courts of law.*

Fitting the purposes behind "family responsibility" legislation to the realities of contemporary families will be fraught with potential unintended consequences. Responsibilities across generations will become more complex, and open to legal dispute, as reconstituted families (containing stepchildren, half-siblings, and stepparents) become more prevalent.

Wisconsin, for example, recently enacted a "grandparents' liability" law, which holds parents financially responsible for infants born to their unmarried children under 18. The law is intended to reduce the number of teenage abortions and pregnancies by giving parents a larger stake in educating their children about sexuality and contraception.

But what happens where a divorced mother has remarried, and years later her unmarried daughter makes her a grandmother? Should Wisconsin impose the duty of support on the natural grandfather (who has been an absentee parent) or the adoptive grandfather (who has played an active parental role)--or both?

Similarly, laws enacted in some states require the children of Medicaid recipients to help pay for their parents' nursing home care. The Department of Health and Human Services is considering proposals that would deny Medicaid benefits to people needing long-term care if their parents or spouses are able, but refuse, to defray some of the cost--even at the expense of some other disabled family member.[1]

But consider an unmarried woman with minor children, one of them handicapped. Suppose she marries a man who develops a chronic health condition that is expensive to treat. If he adopts her children, are *they* legally obligated to pay some of his medical expenses--eventually wiping out trusts which she and their natural father jointly established to provide for one's college tuition and the other's institutional care? Those children probably would need a lawyer, rather than a mother, to represent their interests.

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[1] In a description of its plan, reported in *The New York Times*, July 13, 1986, DHHS says: "Proposing to increase family financial responsibility for long-term care is likely to be controversial, especially as it affects parents whose children face years of institutional care. Family refusal would lead to the loss of eligibility. The severity of these consequences provides the incentive for the spouse or parent to pay the required amount." ("Curbs on Medicaid Being Considered", p. 1.)

These illustrations make a common point: where legislation is narrowly designed to reinforce traditional concepts of family obligations, and therefore overlooks the complex realities of families, it may wreak unintended damage. (Recall how the former "man-in-the-house" rules broke up low-income families so that children could become eligible for AFDC benefits.) Such legislation can just as readily destroy family ties as make them stronger.

CONSTRUCTING DEMOGRAPHIC ASSUMPTIONS ABOUT THE FUTURE

3. The income security and health care needs of the elderly may increase more than Federal planners now envision, as the population ages and mortality is delayed.

To remain solvent in the next century, the Social Security system will have to squeeze more dollars out of a slowly growing or possibly shrinking work force to pay benefits to a swelling number of retirees who were born during the baby boom. Future fertility levels will influence the size of the work force; future life expectancy will affect how long retirees continue to receive Social Security benefits.

Demographic changes will also intensify future health care needs: first, through the baby boom surge early next century; second, through the disproportionate shift within the elderly age range toward the very old ages, at which the prevalence of chronic and disabling conditions is highest; and third, through delays in mortality, which alter the

4. The long-range demographic assumptions on which legislation is premised need careful and impartial scrutiny, because they can invite a false sense of security.

The financing of the Social Security system illustrates this point: Long-range financial imbalances can be made to appear or disappear, depending on one's demographic assumptions. The 1986 OASDI Trustees Report on the system's actuarial status for the next 75 years relies on several alternative sets of economic and demographic assumptions to establish "a reasonable range of possible future experience." [Reference] With respect to future fertility, those assumptions establish a range for the ultimate total fertility rate (TFR) extending from a "pessimistic" low of 1.6 births per woman to an "optimistic" high of 2.3, with an intermediate level of 2.0 births. The intermediate assumptions show the OASDI to be in close actuarial balance.[1] The pessimistic assumptions, however, imply a substantial actuarial deficit: the average cost rate would exceed the average income rate by 35 percent.

In my judgment, the demographic elements in these scenarios are not entirely realistic. The so-called "pessimistic" demographic assumptions strike me as more than remotely possible. The total fertility rate has hovered around 1.8 since 1975. Perhaps it will rise to 2.0. On the other hand, it might sink to 1.6 or below and stay there, as has already occurred in a number of Western European nations (Switzerland, The Netherlands, West Germany, and others). The shift of married women into paid employment implies small families in the future, and we have witnessed the emergence of a trend toward voluntary childlessness.

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[1] "Close actuarial balance" is defined as an average income rate between 95 and 105 percent of the average cost rate.

As for future life expectancy, a number of recent studies raise disturbing doubts in my mind about the assumed future levels.[3] They may

In short, if the intent here is to consider a plausible range of demographic possibilities, I believe the present assumptions as set forth in the 1986 Social Security Trustees Report are overly narrow in what they envision. They invite a false sense of security, and need to be revised.

These considerations raise a more general concern with the vulnerability of inherently technical demographic assumptions to misspecification. Our understanding of the demographic transformations outlined above has expanded considerably in recent years. Legislators now have at their disposal a substantial body of scientific knowledge and range of demographic expertise.

It would be wise to institute a thorough and ongoing reappraisal of the demographic assumptions underlying the long-range forecasts the Congress uses. Those assumptions are critical in shaping Legislators' views of families and of emerging future dependency relations. They must be realistic and up to date, and they must be formulated impartially.

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[3] See: Crimmins, 1983; 1984; Vaupel and Yashin, 1985. understate future life expectancy in old age, lengthening considerably the period over which retirees would be eligible to receive Social Security benefits. Misjudging this possibility could prove to be an extremely expensive error.

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Representative SCHEUER. Well, I'm very much impressed with your testimony. I wonder whether you might give us, in addition, some of the specific public policy issues that you think have been addressed inadequately or not at all and some of your suggested answers, or if not a suggested answer, a range of possible alternatives.

Mr. MORRISON. All right.

Representative SCHEUER. Would you be willing to do that for us?

Mr. MORRISON. Let me focus in on the assumptions.

Representative SCHEUER. You've raised some very provocative questions and I would really be interested in your public policy recommendations. Perhaps not just one for each question, but the kinds of public policies and programs that you think we ought to be addressing.

Mr. MORRISON. I think we ought to be focusing——

Representative SCHEUER. I'm not asking you to give the answer now. Maybe you could submit something to us. Please continue whatever you were saying.

Mr. MORRISON. All right. Much of the specificity of my answers to those questions are in my prepared statement, but I would like to underline something that I think is important and I've emphasized this before in testimony.

The Congress really needs to take advantage of the knowledge that's now available for formulating these long-term demographic assumptions. Let me give you an illustration of what troubles me about the assumptions underlying the social security long-range forecasts and I'm focusing here only on the demographic assumptions. The economic assumptions are outside my area of expertise.

The Social Security trustees' report is premised on a number of views of the future that are said to embrace a reasonable range of possibilities. One of those possibilities they term the pessimistic scenario, which one might think of as the scenario that provides the greatest financial problems for the system—that is to say the greatest deficits. It is one in which the assumption is made that the total fertility rate in the future will be 1.6 children per woman. And the assumptions that seem to guide the thinking about the future as likely assumptions, or perhaps the likeliest scenario that we seem to work with, are premised on an assumption that the total fertility rate will gradually rise to a level of 2.0.

The present level of the total fertility rate is 1.8. It has been at that level, hovering around that level, for about 10 years. It may go up to 2.0. It might well go down to 1.6. In fact, we have examples in a number of Western European countries where the total fertility rate has not only gone down to 1.6 but in fact has sunk well below it.

There are a number of trends that we see underway today that give us some basis for judging what the total fertility rate might be in the future. There are a range of opinions within my field as to what the future levels might be and in fact what it is that determines the total fertility rate.

I think it's fair to say that most of the trends that we look at and most of the factors at work are factors that are moving us into a future in which fertility will, if anything, decline rather than increase.

In my opinion, it's dangerous to assume, for purposes of planning and for purposes of assessing whether we have a problem funding social security in the long term, to assume that total fertility will gradually increase in the years ahead from a level it has been at for the last 10 years, departing from levels that are now manifesting themselves in other countries like ours which may give us some insight into where we're headed.

Representative SCHEUER. Well, I would tend to agree with you and be skeptical of that. I don't know on what that's based. Married women today are delaying their childbearing. Single women are delaying their marriage and when you delay marriage you inevitably reduce the number of children that will be the product of that marriage, and even women who are marrying young are engaging in a rich variety of professional careers before they have children. That all has to tend to reduce the fertility rate.

We have an explosion of fertility among unmarried teenage girls. That is not the kind of contribution to our population that is healthy either for the young mothers, the teenage mothers, or for the infants. The one thing we know about the infant of a 13-, 14-, 15-, or 16-year-old girl is, if it's a girl, that infant girl is statistically likely to be a teenage out-of-wedlock mother herself; and if it's an infant boy, he is statistically likely to be bumping his head up against the criminal justice system as a young teenager.

So we are trying very hard to reduce the fertility rate among unmarried teenagers.

The other large contributor to a high fertility rate is immigration, both legal and illegal. We have about 600,000 or 700,000 legal immigrants and they do come from hispanic countries where fertility rates tend to be very high. Over a period of time we can I guess expect them to adjust down.

We also have an additional approximately 1.8 to 2 million illegal immigrants every year and their fertility tends to be high, perhaps even higher than the legal immigrants because they are sensitive and hesitate to use our public facilities, including hospitals and health clinics and family planning clinics because they are anxiety ridden about surfacing. They don't want to come into contact with the authorities because of their illegal status. They are afraid of being shipped back home. And that's one of the very unhappy characteristics in our economy of having a large pool of illegal immigrants, that they tend to become a subgroup in our society that is easily susceptible to intimidation in the labor force and reluctant to seek help when we would want them to seek help, especially in terms of health and literacy.

As a country, we may want to control illegal immigration. We're doing a very poor job at it. Our borders are an open sieve. But for goodness sakes, once these illegal immigrants are here, we want their kids who are here and who are going to be members of our society willy-nilly, like it or not, we want these kids to be literate and productive and we want them to be healthy. We don't want them to be transmitting communicable diseases right and left.

And there ought to be some way that we could extend all kinds of health services, especially family planning services, to all kinds of immigrants, both legal and illegal.

So I would tend also to share somewhat your skepticism and I would want to know all of the reasons that could be adduced to predicting an increase in fertility.

Mr. MORRISON. There's another side of this that I have mentioned in my prepared statement. I want to just point out that not only is there some substantial uncertainty and, in my judgment, an overly narrow set of assumptions about the total fertility rate, but we may be risking understating future life expectancy and old age, which is a question or a topic on which the other panelists might comment.

Representative SCHEUER. Understating life expectancy?

Mr. MORRISON. In old age. That is to say, misjudging how long the elderly will survive to collect social security benefits. Of course, if we misjudge this, it will be an extremely expensive error to make.

Representative SCHEUER. If we underestimate the number of years they will live beyond what their current statistical likelihood is?

Mr. MORRISON. That's correct.

Representative SCHEUER. Or their statistical life expectancy?

Mr. MORRISON. That's correct. There is a substantial basis for questioning whether the current assumptions being used are an accurate reflection of what we should be expecting in the future.

Research is opening up new areas of uncertainty about this question and we have to at least consider the possibility now, based on some of the technical points that are probably contained in the testimony of my colleagues here, that when people my age turn 65 they may have a much longer life expectancy than we now envision they will. If that is the case, there will be a substantial burden on the Social Security System that we're not envisioning because of the bulge of the baby-boom generation increasing the numbers of people who would live those longer lives.

Representative SCHEUER. As they pass through the snake's belly, as this rabbit passes through the snake's belly and reaches its senior years. They're just about entering their working lives now and you're saying that 30, 35, or 40 years from now they're going to be entering into the old category and if advances in health care continues at their present exponential rate, an awful lot of them are going to be in the old-old category.

Mr. MORRISON. That's correct.

Representative SCHEUER. To produce the kind of demographic statistics that you heard our Census Bureau experts give us and perhaps even more so you say.

Mr. MORRISON. What I'm saying is I think these assumptions deserve much more careful consideration and scrutiny and ought to be fully understood and carefully formulated rather than left in the obscurity of footnotes.

Representative SCHEUER. Well, as a lay person who is interested in demographics and the effect on our society, I have an interest there and, of course, I have an added overlay of interest as you do. You're not quite in that 65 category. I just passed it a year ago. And here's one old person who's desperately eager to reach that old-old category and really enjoy it. So what you say is heartening to us.

Going off the record for a moment.

[Discussion held off the record.]

Representative SCHEUER. Going back on the record, Mr. Morrison, we went way over our 6 or 8 minutes. That's going to make it difficult for me to keep any kind of control for the rest of this panel, but you were a great witness.

OK, Professor Myers, take the same 6 or 8 minutes that Mr. Morrison took and give us an overview of your statement and to the extent that you don't read it we'll all probably have more fun. Refer to anything that you've heard this morning, anything that you know of earlier witnesses on other days. We look forward to hearing from you.

STATEMENT OF GEORGE C. MYERS, DIRECTOR, CENTER FOR DEMOGRAPHIC STUDIES, DUKE UNIVERSITY

Mr. MYERS. Indeed it is a pleasure to be here today, Congressman, and after trying for 15-some-odd years to impress upon people the importance of population aging, it is certainly a refreshing revelation to come in here this morning and hear such a fine summary of recent trends. The shoe is on a different foot and I think it's a very healthy development that's occurring.

Representative SCHEUER. Well, just to interrupt you briefly, going off the record.

[Discussion held off the record.]

Representative SCHEUER. Please continue.

Mr. MYERS. There are some aspects of population aging, however, that may not have been brought out very distinctly in some of the evidence that I have seen, at least from these hearings, and I'd like to touch on a few of these points and then look at some of the implications of them.

One has to do with the fact that we see a graph such as over there with the proportion of the aged population and it looks like there isn't very much change up to 1990 and even to 2010 in that regard.

This may have been a little misconstrued in the analysis, but the important thing that is happening is that we are experiencing population aging and in my report I look at the numbers of older population and that does show quite substantial growth. So we are not waiting for that baby-boom generation to hit. The fact of the matter is that we are experiencing growth currently and we're going to experience even more rapid growth after the year 2000 in the aged population.

To be sure, we get our major explosion in something around 2012, but that's an important notion that we don't say that the problems are "down the road." The problems that may emerge are more current.

The second thing is that during this period, as the other graph showed us, we are experiencing a change in the structure of the aged population itself. The aged population is aging and this notion of the increasing diversity is only brought out in minor ways with the indication of the growth of the oldest old, those 85-year-olds and over. But the whole aging population is itself aging up to this explosion, which we can expect from the baby boom reaching it.

So we have to pay attention I think to the diversity and the dynamic changes that are going on within the aging population itself. I think there's a greater appreciation of that now than there has been, but we still need to keep reminding people of the heterogeneity.

The aging population obviously changes as a result of a number of different forces that are operating. Some people reach old age with different kinds of characteristics than the people that are already there. There is selective mortality that occurs and that makes a difference in changing the overall composition of the older population, and we are also getting some changes in the behavior of people at older ages. For example, material behavior can change the proportions of married people.

Representative SCHEUER. What do you mean by selective mortality?

Mr. MYERS. Well, selective mortality—we know that there are strong differentials by sex, for example. Mortality rates are higher among males than families. That's what we mean by selectivity.

Representative SCHEUER. And education?

Mr. MYERS. It's also income, education, socioeconomic status, marital status, and the like, and that has an important bearing on changing these overall characteristics. So we have to pay attention I think to where the changes are occurring from.

In one sense, the aged population will become more like the younger population, more like the total population over time. And the reason for this is that some of our entering cohorts today are certainly better educated than was true of previous cohorts of older people and the bulk of the older population. They bring more economic resources to bear and in one very important way that I would like to point out, they also increasingly married in proportionate terms. In other words, they're in intact relationships.

One of the curious things is that this then changes the overall structure of the older population. I want to point out two specific ways that this happens.

One, if we look at these projections—and I agree with Peter Morrison that certainly there are some deficiencies in some of our projections, not only in terms of specific projections but also the diversity of projections. So we have different people saying different things. There's very little coordination of efforts in this regard, at least on the Federal level.

Two implications are: One, in terms of the sex ratio, the sex balance, which we know for the overall aged population is predominantly female—actually two females for every one male. But the fact of the matter is, that with increasing survival changes that are occurring—these reductions in mortality that we've paid a lot of attention to—actually the sex ratios which relate the number of males to females is actually going to increase in the future. So not all the things about an aging society are necessarily negative. There are some positive aspects and that happens to be one of them. If we look down the road, we actually find that there's increasing sex ratios—in other words, improvements at all ages up to age 90 and over, when we finally run into obviously the heavy preponderance of females. So there are improvements occurring in that and they're a result of mortality changes.

A second thing is that we are experiencing, as I mentioned before, increasing survival of not only individuals but also joint couples, the husband and the wife surviving to the older ages, and moving through those older ages in a joint relationship.

Now I know that there are many factors that may change that in the future in terms of increasing divorce at younger ages that may carry through to older ages, but the overall trends that are projected in terms of marital status show—and these have been true for the past 20 years, maybe 30 years, true of most industrialized countries, including the United States—an increasing proportion of the older population, males and females, are in the married state. There's actually a declining proportion of the older population which is widowed.

Representative SCHEUER. That's contrary to the popular assumption.

Mr. MYERS. Yes, it is. And I don't provide evidence for that in the prepared statement for this hearing but I'll be glad to do so.

Representative SCHEUER. We would appreciate that.

Mr. MYERS. And the proportions that are in the never-married state have not shown much trend. As a matter of fact, they've gone down a little bit, but that would go up if the present marital patterns at younger ages carries through until reaching the older ages—sometime around the year 2020 we would expect something like that.

So there are aspects to this that relate to living arrangements and to housing, some of which I note, but I would like simply to go over some of my conclusions and policy implications if I may.

We've touched upon a number of demographic changes that observe close monitoring and this includes forecasts and certainly needed improvements. I do not envision any major demographic shifts that can't be dealt with, at least up to the projection period of the year 2020, but it will require careful monitoring.

The exception to this is the health care area, which I do see as very, very important. My main conclusion, therefore, is the main message that I pass on is not to tinker too greatly with existing policies and programs. I would make the statement that I don't think that we ought to hold benefits hostage to economic growth, although we certainly have to be realistic about some of our assumptions.

The later years of life are filled with degrees of uncertainty in the realms of health, finances, and social support. Younger persons need the assurance in planning their remaining years of life that stable structures provide.

Recently I passed a sign on Interstate 95 in South Carolina that read, "Retire as much as you want." It referred to an integrated housing community that provided not only independent living but other forms of residential maintenance. But the sign's message could apply to conditions of employment, leisure, and social interaction, among other things. Older persons want the freedom to choose their way of life without major constraints placed on this freedom.

In the main, Federal policy in the past two decades has made this possible, but this progress should not be eroded.

Three further observations that I've made here. One, while the vast majority of older persons have positive feelings about their life conditions, there persists a relatively small, but no less important segment, who for one reason or another lack the relative advantages of others. They should remain the targets of continued steps to improve their conditions of life without shifting out of categorical programs that address the concerns of the elderly as a distinct group. There is further scope for attention to the needs of specific elderly who are poor, infirm, ill-housed, and otherwise disadvantaged.

Two, we must guard against the sometimes widely held stereotypes of old age and the elderly. As our knowledge of the aging process increments, we learn that all abilities do not decline uniformly and that meaningful intervention is possible not only to preserve life, but also meaningful life.

Continued Federal support of research to further this goal in both the biological and social sciences is necessary and should have high priority.

Representative SCHEUER. Could you tick off for us the specific questions you think Federal research ought to address? You've just made a general statement. Could you put a little meat on that skeleton for us and perhaps submit something further?

Mr. MYERS. Surely, yes.

Three, there is a public good that I have largely ignored. There's been a recent spate of attention to issues of inequity in the distribution of Federal resources to the old as opposed to the young, and some of that was alluded to earlier today.

This argument as I see it is based on three assumptions. The resources that might be allocated to persons in these age groups are fixed; that empirically the facts about inequity are correct; and third, that the old have been responsible by collective action for this development.

I take issue with all three assumptions. The resources are not fixed. In fact, cross-national comparisons of our levels of support for the elderly per capita as a share of GNP, show that in most cases that they are less than in many other industrialized countries, and also, incidentally, that our proportion of GNP per capita provided for the younger population is less.

Where neglect exists, especially with respect to the young, we should remedy this situation but not at the expense of the elderly.

The second assumption may also not be correct on the facts of the matter. There's been some recent rather interesting research, using the University of Michigan survey of income dynamics panel study, and it shows that average family income in relation to needs declined between 1968 and 1982 for cohorts of families with persons aged 60 to 64 in 1968. In other words, at the beginning of the period for those aged 60 to 64, their relative income per need declined.

While for families with children aged 0 to 4, it actually increased. However, cross-sectional studies, when you look at it in 1968 and in 1982, show just the opposite trend and it's this kind of evidence that is usually used to suggest that the aged are doing much better than the young, when in fact if you look at the trends through time, the aged are doing less well, even controlling the value of the dollar for inflation.

Now the third point, there's little evidence that I see that suggests that either pressure groups or political blocs of older persons have been mainly responsible for legislation that has improved the conditions of life for older persons. Instead, the legislation has enjoyed widespread bipartisan support and overwhelming approval by all age groups, even younger adults. In repeated national polls this has been confirmed. There's a possibility obviously of intergenerational conflict that could arise in the future, as you raised the issue this morning, but I think that little evidence currently exists that it will become a feature of American society. I appreciate the opportunity of presenting my views.

[The prepared statement of Mr. Myers follows:]

PREPARED STATEMENT OF GEORGE C. MYERS

THE GRAYING OF THE POPULATION: IMPLICATIONS FOR THE U.S.

Chairman and members of the Subcommittee on Economic Resources, Competitiveness, and Security Economics of the Joint Economic Committee, I wish to thank you for the opportunity to participate in today's inquiry into the long-term consequences of the aging of the American population. I am George C. Myers, Professor of Sociology and Director of the Center for Demographic Studies at Duke University. I am currently a member of the National Committee on Vital and Health Statistics and formerly have served on the Bureau of the Census Advisory Committee on Population Statistics and the National Institute on Aging's Review Committee.

In my presentation today, I would like to address some of the main demographic, social and economic changes that have accompanied the rise in the numbers and proportions of older persons in our population. In turn, I will indicate broader implications of these changes and some policy dimensions that are apt to be encountered by likely developments in the future.

DEMOGRAPHIC PERSPECTIVES

Demographers studying population aging bring together a number of perspectives that relate to our present considerations. For this presentation, I will make use of trends forecasted over the next 35 years in the numbers of persons in selected age categories of the population as shown in Figure 1 and additional population dimensions in Table 1. They provide an effective means of examining some principles about population aging. Several recent accounts of these developments are available for detailed study (Myers, 1985; Myers, Manton and Bacellar, 1986; Siegel and Taeuber, 1986).

- Interest in empirically establishing prior trends and preparing projections of future developments. This is of particular importance in the study of population aging for we can gauge the future size of the aged population with reasonable effectiveness, inasmuch as even those who will be aged in the middle of the next century have already been born. The *momentum* of future growth of the aged population is embedded in the size of birth groups in the past. Thus, the baby-boomers will make their entrance into the ranks of the aged after 2012. Figure 1 informs us, however, that the aged population will increase *throughout* the projection period -- even before the explosion occurs!
- Interest in the dynamic properties of population change. Studying the *metabolism* of the aged population involves assessment not only of new entrants -- that is cohorts reaching older ages, but persons dying, and the changing characteristics of older persons, such as shifts in age, sex and other characteristics. Figure 1 indicates the changing numbers of persons aged 60-64 who are about to enter the older ages. Although this age group declines numerically up to the year 1995, an accelerated increase is found thereafter. Noteworthy, is the fact that the aged population 65 and over increases even more sharply, which indicates that mortality rate declines are expected to produce more older survivirs in the decades ahead. It may be noted that these dynamics of increment and decrement produce a uniquely high turnover for the aged population overall.
- Interest in the composition of population. The aged population is notably *diverse* and appears to be increasingly so. Diversity with respect to a whole range of characteristics -- age, sex, race, ethnic

and racial status, marital status, educational status, socioeconomic status, etc. This comes about from the dynamics noted earlier -- new cohorts of older persons, selective mortality of those at older ages, and changing behaviors that affect modifiable characteristics. To take the most simple example, Figure 1 and Table I show the growth of the oldest-old population in numbers and as a percentage of the aged population itself. These oldest-old are increasingly being recognized as quite different from younger-old persons in their various health and social characteristics (Rosenwaike, 1985). Their increasing numbers contribute, therefore, to the growing heterogeneity of the aged population and emphasize the importance of acknowledging diversity in considering issues relating to the aged population.

- Interest in comparative analyses of different components of population at different points in time. Aged persons represent merely only one segment of a total population. We have pointed out how diversity exists within the aged population, but differences occur among different age groups of the total population in terms of both size and characteristics. In effect, consideration of an aging society takes into account not only growing proportions of older persons vis-a-vis other age categories, but also how the aged population differs in various respects at any one point in time and over time. Here we must emphasize both the cross-sectional comparisons as well as the comparisons of different birth cohorts as they age collectively over a life course. Comparing trends in the size of different age groups over time, as can be seen in Figure 1, or in the structural ratios (sometimes referred to as dependency ratios) presented in Table 1 provide the most elementary types of comparisons. For example, estimated growth trends of the population 65 years and over to youths 0 to 15 years bear evidence to the fact that parity in the size of these respective groups will be reached shortly after the year 2020. In terms of sex composition, the trends in Table 1 indicate the preponderence of females in different older age groups, but the trends also reveal a reversal can be anticipated in the future. That is, the sex ratio of males to females actually increases over time for age groups up to ages over 90.

IMPACT OF DEMOGRAPHIC CHANGE ON SOCIAL STRUCTURES OF AN AGING SOCIETY

Demographic changes provide an important basis for understanding of shifts in the social structures of a society through time. However, to fully understand these shifts, we also must consider the role of behavioral modifications and how they affect and are affected by the political, economic, and cultural institutions. Let us examine several examples of how these forces come into play.

Labor Force and Retirement

From a demographic point the size of labor force is affected by the net balance between entrants and exits through death and retirements. Simple projected trends in the size of the age categories 20-24 and 60-64 give us an approximation of the purely demographic factors, as shown in Figure 1. Of course, labor participation rates, particularly by sex, are a necessary addition for examining the size of the labor force. Holding these constant, however, we can see that the size of potential exits (persons 60-64) remains stable until the turn of the century, but then rises rapidly to the year 2020. The projected numbers of persons 20-24 fluctuate over the period, but remain fairly constant. However, a crossover between these age categories occurs between 2010 and 2020. From this perspective, the fears of a dwindling labor force are felt mainly in the long-term. Moreover, improved survival through the working ages may even increase the potential workers in the labor force.

Viewed more generally, these conclusions are in agreement with other more sophisticated national projections (For a review, see Myers et al., 1986) that indicate a growing labor force through the year 2020. Critical in these projections are assumptions that little reversal in early retirement for both men and women can be anticipated and perhaps even slightly lower levels of labor force participation for older men and women. In spite of recent Federal legislation and the seemingly improved physical capacity for employment, little support exists for the notion that current retirement trends will be attenuated at least in the short term. We may speculate that shifts in the nature of work toward less physically demanding occupations and the increasing social capital of future older workers may affect retirement behavior, but it seems unlikely that these factors relating to the ability to work will operate in the shorter-term. In any event, aged workers currently represent only a very small share of the labor force (1.1 percent in 1980) and even major changes would have only a modest impact on the labor force as a whole. Morever, continued employment after age 65, even with legislated increased social security credits for remaining employed appear to have only a small financial effect on the system. I will leave the main discussion of social security conditions to subsequent panelists.

Family Structure, Living Arrangements and Housing

These three societal conditions are closely interwoven. Changing family structures within a society are strongly influenced by demographic trends. Improvements in survival have increased the likelihood of reaching old age both individually and jointly with spouses. So too, it has affected "vertical" extension of multigenerational families, even those with older persons. Moreover, the possibility of having one or both parents alive for persons reaching old age has increased. One result of this increased longevity has been the trend toward higher proportions of both older men and women being in the married state, and reduced proportions of the aged who are widowed. This trend is found not only for the aged as a whole, but for all age groups up to the oldest-old. Older men remain much more likely to be married than women, however, due to both their lower changes of survival and their propensity to remarry. Thus, widowhood is a condition mainly experienced by women, but even widowhood has been postponed until later in life and its duration somewhat curtailed.

It has been noted that prevailing trends toward increased levels of divorce, separation, and remaining single are certain to have an effect on marital status distributions of older persons in the future, but these are unlikely to have a major impact in the short-term and are, in any case, mitigated by high levels of remarriage at younger ages, especially for men. This is not to minimize the potential implications of current trends, but to emphasize that their impact will be felt only well into the next century.

The living arrangements of older persons are influenced by marital status characteristics. American families have always tended to have independent nuclear family household arrangements, even at older ages. The predominant pattern among older persons remains the intact husband-wife household, with very little shift in the proportions of the total aged who experience this condition. Noteworthy however, has been the greatly increased likelihood of independent living for these older persons without a spouse. Concommitantly, the proprotions of older persons living with related persons, including siblings or unrelated persons, have declined, especially for women. The proprotions living in group quarters and institutionalized remain relatively insignificant (less than 7 percent).

These trends are difficult to explain without due consideration of the strong desire of older persons to maintain their independence as long as they possess the health and resources (financial and social supports, both informal and formal) to do so effectively. Certainly, adequate maintenance of income, as afforded by social security benefits and private pensions, for example, have played a strong role in this regard. Projections of future living arrangements generally have assumed that current conditions will persist into the future. They typically reveal very little in the way of major shifts stemming from demographic factors. However, it must be stressed that with the growth in the numbers of older persons, especially at extremely old ages, the demands for services of various kinds almost certainly will occur. Much has been said about the effects of reduced fertility and smaller family size on the potential caregivers for the dependent elderly. Examining ratios of younger family members, notably females, to the oldest-old reveals a decline in the ratios to the turn of the century, but they then stabilize at over four females 50-64 for each person 85 years and over.

Far less can be said with any degree of confidence about how the foregoing trends we have discussed will impact on housing demands. The vast majority of older persons tend to "age-in-place" and remain in homes that they own outright. There are, to be sure, so called "geriatric enclaves", especially in central cities, that result largely from out-migration of younger persons. Others develop from selective migration of older persons, often at time of retirement or shortly thereafter. These enclaves demand attention from the standpoint of service demands generated for local communities and, in certain cases, States that have received large-scale immigration of older persons. Another development that merits attention is the increasing numbers and proportions of older persons found in suburban areas, where they often are scattered more diffusely than is typical in central cities. Providing transportion and services for persons in such areas may be demanding at best. The geographic redistribution of the aged will need to be examined more extensively in the future, but current trends display rather crescive growth in the light of only modestly increasing levels of population mobility at older ages.

Specialized housing for selective segments of the aged population -- in retirement communities, condominiums devoted to the elderly, congregate housing, and nursing homes -- have received growing attention from housing developers. To date, these types of housing arrangements, with the possible exception of nursing homes, have relevance for only a small segment of the aged population. With the growth of the older population a market certainly exists, but its impact to date has tended to be minimal. A persistent demand is found for public housing among lower-income older persons, which does merit continuing attention. Moreover, there is a substantial interest in shared housing that has tended to be constrained by existing zoning laws and other housing ordinances. Of perhaps greater importance is the growing proportion of entering cohorts of older persons who already possess or have the resources to obtain second homes.

Thus, we do not envision any major divergencies in the family status, living arrangements, or housing requirements for older persons in the short-term or even through our forecast period.

CONCLUSIONS AND POLICY IMPLICATIONS

We have touched upon a number of demographic changes that deserve close monitoring in the years ahead. This demands oversight and continued research attention. We do not envision any major demographic shifts that cannot be dealt with by responsible action. Outside the purview of our attention are considerations of health care requirements, which would seem to have greater potential for priority attention. The main message I would pass on is not to tinker too greatly with existing policies and programs. The later years of life are filled with degrees of uncertainty in the realms of health, finances and social support. Younger persons need the assurance in planning their remaining years of life that stable structures provide.

Recently, I passed a sign on Interstate 95 in South Carolina that read "Retire As Much As You Want." It referred to an integrated housing community that provides both independent living and other forms of residential maintenance when dependent needs arise. The sign's message could apply to conditions of employment, leisure and social interaction. Older persons want the freedom to choose their way of life, without major constraints placed on this freedom. In the main, federal policy in the past two decades has made this possible -- but this progress should not be eroded.

Three further observations can be made. One, while the vast majority of older persons have positive feelings about their life conditions, there persists a relatively small, but no less important segment, who for one reason or another lack the relative advantages of others. They should remain the targets of continued steps to improve their conditions of life. Without shifting out categorical programs that address the concerns of the elderly as a distinct group, there is further scope for attention to the needs of specific elderly who are poor, infirm, ill-housed or otherwise disadvantaged.

Two, we must guard against the sometimes widely-held stereotypes of old age and the elderly. As our knowledge of the aging process increments, we learn that all abilities do not decline uniformly and that meaningful intervention is possible not only to preserve life, but also meaningful life. Continued federal support of research to future this goal is both the biological and social sciences is required.

Three, there is a "public good" that I have largely ignored in this presentation. There has been a recent spate of attention to issues of inequity in the distribution of federal resources to the old as opposed to the young. This argument is based on three assumptions -- that resources that might be allocated to persons in these age groups are fixed, that empirically the facts about the inequity are correct, and that the old have been responsible through collection action for this development. I take issue with all three assumptions.

The resources are not fixed -- in fact, cross-national comparisons of our levels of support for the elderly per capita, as a share of GNr, are less than in many other industrialized countries. Incidentally, the same is also true for expenditures on the young. Where neglect exists, especially with respect to the young, we should remedy this situation, but not at the expense of the elderly. The second assumption, in fact, may also not be correct. Recent research (Duncan, Hill, and Rodgers, 1986) shows that average family income in relation to needs declined between 1968 and 1982 for cohorts of families with persons aged 60-64 in 1968, while for families with children 0-4 it has increased. However, cross-sectional studies, upon which we often erroneously base our conclusions, show opposite trends for families with young persons and persons 65 and over. This may explain some of the confusion. As to the third point, there is little evidence that suggests that either pressure groups or political blocks of older persons have been mainly responsible for legislation that has improved the conditions of life for older persons. Instead, this legislation has enjoyed widespread bipartisan support, and overwhelming approval by all groups, including young adults, in repeated national polls. Intergenerational conflict may certainly be a future issue, but little evidence exists which suggests it will become a feature of American society.

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FIGURE 1

NUMBERS OF PERSONS AT SELECTED AGES
United States, 1982-2020 (Middle Series Projections)

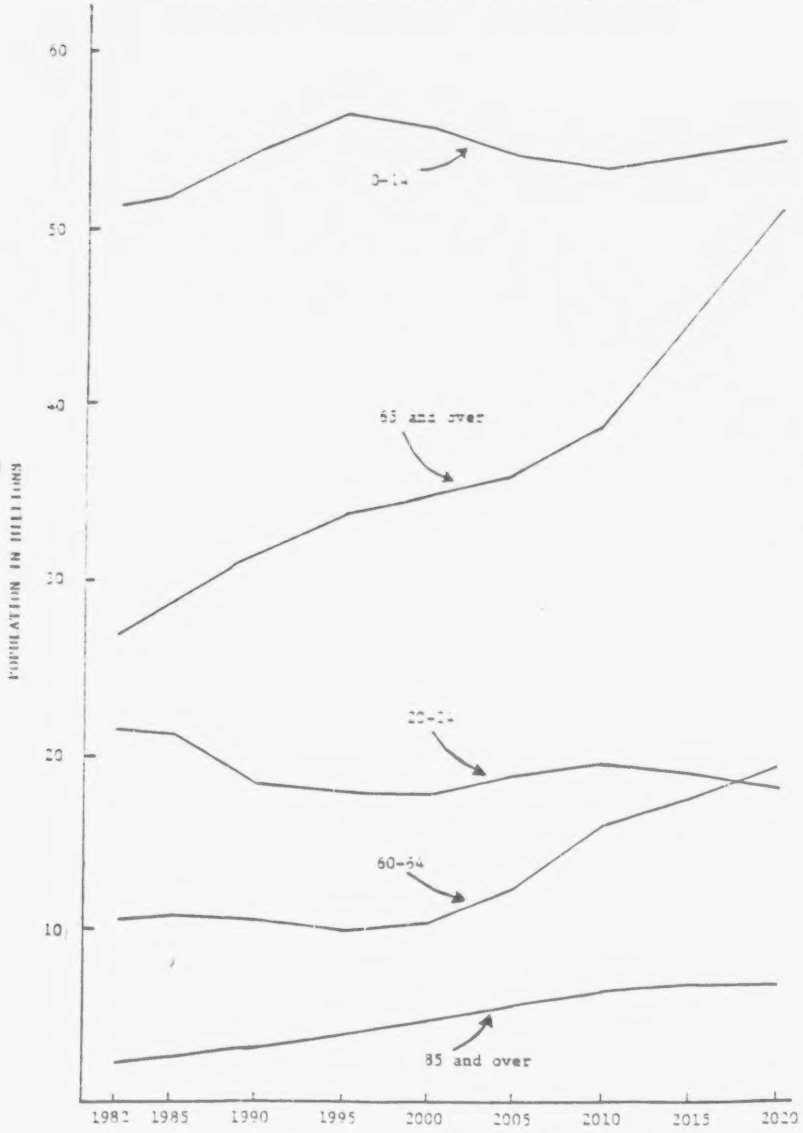


TABLE 1

Selected Statistics on Population 65 Years of Age and Over, United States
1980-2080 Middle Series Projections

	YEAR				
	1980	2000	2020	2050	2080
Total Population	25,708	34,921	51,422	67,407	73,039
Percent Aged	11.3	13.0	17.3	21.8	23.3
Ages-Number					
65-69	8,805	9,096	15,622	15,609	15,914
70-74	6,841	8,581	12,205	12,495	14,884
75-79	4,815	7,295	8,824	11,478	12,559
80-84	2,972	5,020	5,562	9,785	10,206
85-89	1,641	2,926	3,387	7,825	7,977
90-94	575	1,455	2,118	4,915	5,421
95-99	110	418	975	2,251	2,946
100+	25	108	262	1,029	1,370
Ages-Percent	100.0	100.0	100.0	100.0	100.0
65-69	34.2	26.0	30.4	24.7	22.1
70-74	26.6	24.6	23.7	20.0	20.3
75-79	18.7	20.9	17.2	17.0	17.2
80-84	11.6	14.4	11.0	14.5	14.0
85-89	6.0	8.7	7.0	11.6	10.9
90-94	2.2	3.9	4.1	7.3	7.4
95-99	0.5	1.2	1.9	3.4	4.0
100+	0.1	0.3	0.7	1.5	1.9
Sex Ratio	67.5	65.0	70.2	68.3	70.0
65-69	80.0	82.0	86.3	90.0	91.0
70-74	72.4	74.6	79.0	82.0	84.9
75-79	62.7	64.6	69.0	74.0	76.0
80-84	53.0	54.5	58.0	63.4	65.9
85-89	43.7	42.3	45.0	52.1	54.1
90-94	39.9	32.3	34.5	40.0	43.5
95-99	35.1	25.9	25.3	32.3	35.1
100+	44.4	20.0	19.9	22.3	24.3
Percent Nonwhite of Total Aged	9.3	10.9	13.8	19.1	20.5
Population Structure Ratios					
20-64/<20	1.79	2.11	2.08	2.06	2.08
20-64/65+	5.04	4.53	3.04	2.22	2.09
20-64/<20+65+	1.32	1.44	1.28	1.22	1.17
65-74/85+	6.38	3.39	4.10	1.88	1.75
65-79/45-49	1.85	1.26	2.00	2.24	2.06

SOURCE: U.S. Bureau of the Census, 1984 "Projections of the Population of the United States by Age, Sex, and Race: 1983 to 2080" *Current Population Reports*, Series P-25, No. 952; unpublished data used for ages 85-100+ in 1980.

Representative SCHEUER. Well, thank you very, very much. We hope you're right. Now we will hear from Mr. Rother.

STATEMENT OF JOHN C. ROTHER, DIRECTOR, DIVISION OF LEGISLATION, RESEARCH AND PUBLIC POLICY, AMERICAN ASSOCIATION OF RETIRED PERSONS

Mr. ROTHER. Good morning, Congressman, and thank you. I want to begin by complimenting you for this series of hearings and on the excellence of the testimony. It's a relief to be able to look a little farther ahead than our 2-year congressional election cycle or, for that matter, even our 3-year budget cycle, because I think many of these longer term developments are crucial to our ability to adapt to the process of becoming a more mature society. And I think the process of becoming a more mature society poses many challenges but also some opportunities, and it's not a negative development at all.

In fact, if we were not becoming a more mature society, we would be even more alarmed than we are today, because then we would have either an explosion of population or a lack of advances in health care having to do with longevity and success in keeping people alive. So a graying population is a positive development and it does pose some challenges.

The thrust of my statement today is that the focus of most of the public debate has missed the target in terms of the challenges that are really before us. In other words, looking exclusively at the Federal budget deficits or at the long-range projections for social security misses the point.

The real challenges ahead of us are in the area of pensions in the private sector and in the area of controlling health care costs and insuring against the cost of long-term care.

I'll be very brief because my prepared statement goes into these quite fully. I did bring some charts that I want to share with you today just to illustrate my major points.

The first one shows the importance of economic growth to our capacity as a country to meet the challenges of caring for more people both at older ages and at younger ages.

The top line represents a 2 percent growth in GNP, a very modest rate of growth by historical standards. We are currently above that today. That is the figure used in most of the projections for the social security trust funds, for example, and it shows what a 2 percent steady growth would mean in the economy: going from $16,000 today to almost $26,000 per person by the year 2020. That kind of growth is fundamental to our ability to meet the challenges and that's what we ought to keep our eyes on.

Representative SCHEUER. Of course, we don't know whether those are real dollars or not because we can't extrapolate the rates of inflation for the future.

Mr. ROTHER. Well, those projections are real—that's real GNP growth, so those are real dollars, not inflated dollars.

Representative SCHEUER. In other words, you're saying 2 percent over inflation.

Mr. ROTHER. That's correct. By contrast, the lower projection is for a 1.5 percent rate of GNP growth, which would be quite low by historical standards, and even that produces a significant increase over time.

So I think one thing that we've got to keep in perspective here is that we probably will be a more wealthy society when we have to meet these demands. The important thing now is to take the steps that will ensure that rate of growth, and you've mentioned some of them already—investment in literacy, in education. I would add to that investments in our economic infrastructure and preserving our environment.

Representative SCHEUER. Doing something about our budget deficit so that we don't have to finance this incredible debt that we're building up. We've doubled our national debt that we accumulated over 200 years in the last 5 years, and we now have a $2 trillion debt and we have always been a creditor Nation except for a very few years when we weren't and now we're the No. 1 debtor Nation in the world. And we're going to have to pay something like 2 or 3 percent of our GNP to countries abroad who have financed this incredible deficit that we have.

Mr. ROTHER. It's truly an alarming situation, but my point is that an exclusive focus on debt itself can be misleading because the real question is, What are we doing with the money we're borrowing? Are we investing it in ways that make for a better, stronger economy in the future or is it dedicated to current consumption? I think that's the point of that chart right there.

Representative SCHEUER. I agree with you.

Mr. ROTHER. It's got to be looked at in terms of investment.

Representative SCHEUER. We've got to invest it in capital, in our physical capital where it counts and in human capital.

Mr. ROTHER. I think human capital is the key over the long term.

Representative SCHEUER. Yes. Physical capital—I'm talking about our productive plant and equipment. We need to invest less of our savings in hotels, apartment houses, office buildings, and shopping centers that really don't contribute to our balance of payments and don't reduce our trade deficit and we need to have more encouragements for investments in our productive sector, in our manufacturing, in our high tech, in our smokestack industries, so that we stop exporting jobs so that we have an up-to-date plant and equipment so that we can compete in global terms with all our global competitors, particularly the new competitors in Asia.

Mr. ROTHER. I think, though, in terms of the long-run perhaps investment in human capital may be more important.

Representative SCHEUER. Well, we've talked at great length about the absolute urgency of eliminating this blight on our economy and on our society known as illiteracy, functional illiteracy that afflicts 20 percent of our labor force, and perhaps a larger percent of the future labor force.

Mr. ROTHER. I would suggest, Congressman, over the last 5 years and perhaps longer what we've done as a country is expand the incentives for capital investment at the same time that we have drastically reduced our investment in human capital, and I think that that needs to be rebalanced if we're going to have this kind of long-term growth.

Representative SCHEUER. We've expanded the incentives for investment in the sector of capital that really doesn't help our national economy very much.

Mr. ROTHER. That's correct.

Representative SCHEUER. And we need to shift that both to investment in the productive sector of capital where we're in global competition and in our human capital.

Mr. ROTHER. That was my first point. The next point is social security. I believe much of the public focus and the anxiety around what it means to be a graying society has focused on social security and I believe that's a misplaced focus.

Basically, the Congress did a pretty good job in 1983 of acting prudently to keep the social security cash-benefit program within a range that's reasonable and capable of further adjustment, if necessary, over the long run.

I don't think it's a matter, though, strictly of the balances in the trust funds. I think much more importantly it's the percentage of GNP that we're devoting to our social insurance programs and our retirement programs.

The next chart is based on current projections from the Congressional Budget Office. It represents the total of our Federal retirement programs, the over-whelming majority of which is social security, as a percent of GNP. It is based upon the mid-range actuarial projections. The peak burden on the economy was reached in 1982. Right now social security, as are all the other retirement programs, is a declining part not only of our national economy, but also a declining part of the Federal budget.

Representative SCHEUER. It slopes down. I can't read the years at the bottom from here. It slopes down until when?

Mr. ROTHER. Approximately until the year 2005.

Representative SCHEUER. And then it comes back up again but it never exceeds the peak?

Mr. ROTHER. It will come right back up to a maximum of around 7 percent of GNP which is within our historical experience. It's not going to break the bank if the economy keeps growing. That's the key.

So this chart shows that we've managed to do a fairly good job of stabilizing our Federal retirement programs. Of course we do need to keep a very close watch on continuing demographic changes, but to some extent, a higher than projected economic growth rate can offset some of those as well.

Representative SCHEUER. Well, our first witness was very much concerned about the increase of these retirement programs from 4.9 percent of GNP to 6 percent of GNP and now you tell us that we're likely in a few decades to level off at about 7 percent of GNP.

Mr. ROTHER. For the immediate future it's a declining share of GNP.

Representative SCHEUER. Right. Over a period of time, we're going to have to learn to pull in our belts a hitch and become comfortable with a higher rate of public expenditures on these social programs and learn to cope with the 7 percent level I suppose.

Mr. ROTHER. Well, this takes me to my next point, because in some respects this does reflect a decision that was made in 1983 to lower benefits, relatively speaking, over time. And, of course, the theory is that you can do that because more and more people will qualify for private pensions. Here's where I think we're in trouble because what we're seeing—and this is demonstrated by my next chart—is a recent downturn in coverage in the private sector.

The proportion of the work force that's covered under private pension plans today is around 50 percent, and most current projections forecast that coverage rate to be stagnant or perhaps even to decline in the future.

The reasons for that stagnation lie in the shift to the service economy where pension coverage is less. Second, new jobs are being created in small business, and only about 20 percent of employees in small business are covered by pensions. And third, the tax reform bill, which I think is good in many other ways, will lower the tax incentive to employers to create pension plans.

For all those reasons, I believe that our true focus of concern on income adequacy for the future in an aging society ought to be focused on the private pension sector much more so than on the public sector programs. We have to do a better job of getting pensions to people. We're making some strides in that, but if the coverage rate stays stagnant at 50 percent, it's going to mean that many, many people are just simply not going to have the income security they need. Their savings are not going to be that important a part of it and they're going to end up relying on social security as people do today. Then we would face renewed pressures to expand social security if we do not do a better job of strengthening coverage in our private pension plans.

Representative SCHEUER. Of course, social security was never designed and it was never conceived to take care of all of an individual's retirement needs. We started the program off at something like $25 or $30 a month. It was never conceived to be the source of funding that elderly people could rely on for their living expenses after retirement.

Mr. ROTHER. It was not planned that way but it's turned out to be the sole source of income for many, many more older people today than we ever envisioned. The original plan was to have private pensions be the main add on to social security. What I'm saying is that we have a problem that we've not yet focused on sufficiently and that is not going to take care of itself. It will involve new interventions, whether it's in the form of greater incentives or perhaps a mandated system of private pension coverage. But this is a serious issue that must be addressed soon or too many people who thought they were protected are going to reach retirement age and find that they have not got any degree of economic security.

I'd like to go on to my third major point. Health care costs are the fundamental concern on the outgo side. The next chart tracks the historical experience to date in inflation in the health care sector versus general inflation.

On the left, beginning in 1981, the chart shows price inflation. This is not budgetary expenditures. This is just price levels in health care. Since 1981 they have gone up approximately 50 percent, whereas inflation overall has only gone up 18 percent.

Congressman, this year the projections are that inflation for the general economy has stopped dead in its tracks at negative 0.2 percent. But inflation in the health care sector is running 8.4 percent.

So all the things that we've done over the last few years to cut down the rate of increase in health care have basically not succeeded. Health care prices today are increasing at higher multiples of inflation than ever before. If that continues, no matter what we do on the income security side, we're not going to achieve the goal because increasing expenditures are simply going to outrun gains in income.

So an absolutely key public policy priority for an aging society is to bring down the level of health care cost increases so that they more nearly match price levels in the economy as a whole.

I think there are some definite things we can do. One would be to expand the number of States that have all-payer hospital, rate-setting systems, such as New York, which have been very successful.

Representative SCHEUER. HMO's?

Mr. ROTHER. Sure. Another one would be to reform the way we pay physicians under the Medicare program. It's not a very rational system today as it rewards many of the most expensive kinds of behaviors. Doctors are the decisionmakers generally in health care utilization, and we've got to make sure we're addressing that decisionmaking discretion in a reasonable way.

Third, there's much evidence that shows that there's tremendous variation in the patterns of health care utilization in different communities across the country. Those variations cannot be explained in any other way except that doctors in one place are much more aggressive and doctors in another place are much more conservative.

The fact is, we don't really know what level of medical utilization is appropriate. We have to do the basic research to find out if we can keep people out of the hospital and still maintain health status. If we can, we can save quite a bit of money and have a much more efficient health care system than we presently have.

Representative SCHEUER. I think that's particularly true of surgery. I think in this country, for example, just to take one operation—hysterectomy. We have wide variations in various parts of the country in the number of women who have hysterectomies. We have about twice the rate of hysterectomies that they have in England and there's absolutely evidence to indicate that the British have more inferior health outputs for their women than we do. There is no evidence to indicate that the doubled rate of hysterectomies for women in the United States has contributed to their physical or mental well-being. And that's just one dramatic example of the widely, wildly varying estimates of the rate of hysterectomies by region and by city and there are many other comparables that you could point out.

Mr. ROTHER. There are many differences within the United States and, as you point out correctly, most of the other industrialized countries have done a better job than we have of making their health care system both more comprehensive and at the same time more efficient.

Canada is probably the closest example to our own. They have a fee-for-service medical system that covers everyone. It covers long-term care as well and they do it for about 8.2 percent of their economy, whereas our system that leaves so many gaps costs us about 10.7 percent.

Representative SCHEUER. I think we're over that. I think we're spending 11 qnd 12 percent of our GNP.

Mr. ROTHER. I think we will shortly. So we do have a lot to learn from other countries. We have a lot of basic research that still needs to be done.

Representative SCHEUER. In Sweden they have 1.5 workers per hospital bed. In this country, we have 4.1 health workers per hospital bed. There isn't the most marginal evidence that health per hospital bed is inferior in Sweden to the United States. In fact, it's superior. On almost every measure of health care, Sweden is superior to the United States and yet they have less than a third number of health workers per hospital bed.

Mr. ROTHER. This is really the short-term urgent agenda for our country in responding to our demographic changes. Because of the rate of increase in prices combined with the increase in the population most at risk, we really don't have much time to put our house in order in health care.

A final point I want to make concerns long-term care and the people at risk of chronic illness and disease.

We have an absolutely terrible situation now. Our population generally does not appreciate the risk they face. People have today over a 20 percent risk that at some point in their life they will need to be placed in a nursing home bed. Most people are not geared for that, do not have the information, have no tools to protect themselves or their families, and I think that's absolutely urgent, particularly given the very dramatic increases in the number of very old people in the population.

But I want to emphasize that it's not a problem exclusively for the very old. About one-third of all the people potentially needing long-term care services in this country are under the age of 65. So it's not a problem exclusively associated with aging, although certainly people over 85 are most likely to be at risk.

The last chart I have shows the population at risk and the projections of the numbers of people who will need institutionalized care in future years. We certainly need to do more to help people stay in their homes and help a family care for a person, but these are people who definitely are heavy care patients who will need institutionalized care unless we make a major breakthrough.

Let me just remind you that about one-third of all the nursing home beds today are filled with Alzheimer's disease and other dementia patients and if we can find the key to preventing or curing that, we've done a lot about that problem. But regardless of our research efforts, we also have to find a way to make more affordable and more rational the costs that are inevitably involved in caring for people who are frail at the end of their lives. That concludes my testimony.

[The prepared statement of Mr. Rother follows:]

Prepared Statement of John C. Rother

THE COSTS OF AN AGING SOCIETY

INTRODUCTION

The American Association of Retired Persons (AARP) is the nation's largest membership organization, representing the interests of more than 22 million members age 50 and over. The Association appreciates this opportunity to express its views on how the changing age structure of the population of the United States will affect our economy and society as we enter the 21st Century, especially in the areas of retirement income and health care.

American society in the 21st Century will indeed be an aging society. While this "graying" of America has been acknowledged for some time, only recently have we begun to appreciate just what a mature American society might mean. While it is hard to predict exactly what our society will be like in the year 2020 when the oldest baby boomers will be retired, we can reasonably well anticipate what retirement will be like in the year 2000, less than fourteen short years away.

We are faced with a future period of enormous change and challenge, one truly without precedent--a frontier, not of outer space, but of human society. We have an advantage in this challenge: when we look into the future, we are looking at something about which we have a choice, unlike the past. But we need to press our advantage now. We cannot delay any longer our preparations for this new type of society and how we will meet the needs of the different groups of older Americans in the years 2000 and 2020.

We can project, with reasonable certainty, what the aging society of the 21st Century will be demographically. Not only will there be nearly 35 million Americans who will be 65 and older by the year 2000--a 23 percent increase during the last two decades of the 20th Century--but by the year 2020, there will be slightly more than 51 million older Americans. Barring major reversals, the comparatively greater longevity of women will continue, so that a majority of these future older Americans will be women.

In addition to being older, American society of the 21st Century will also show an increase of both young and old female-headed households, an increasing proportion of minorities due to higher birth rates, increasing immigration of non-European populations, continued migration to the Sunbelt and away from large urban centers, continued high workforce participation of women, and fewer entry-level workers.

The new century will also bring with it major economic shifts in the way we conduct business and the way we work, a continued growth in the information and service economy, possibly greater income inequality, and a continued need for America to be competitive internationally. Because the new century brings with it an aging society we shall need to redefine and reconceptualize productivity as it relates to a longer life span, rather than be held hostage to continued myths about productivity. We cannot afford the negativism of some who would equate an aging society with a poor society. In the future mature American society, the overall health of our economy will ultimately prove the single most important determinant of the well-being of the aged and non-aged alike.

Five major points are raised in this testimony:

- Strong economic growth will be essential in determining our ability to respond to the needs of an aging society;
- Social Security is basically sound and will be increasingly targeted;
- Pension coverage must be expanded to ensure that future older Americans will have adequate retirement income;
- Health care costs must be brought into line with inflation, or income security gains will be lost to higher expenses for both workers and retirees; and
- Long term care insurance must be put in place quickly, before a major explosion occurs in the population at risk.

SUSTAINED ECONOMIC GROWTH IS KEY TO MEETING THE COSTS OF AN AGING SOCIETY

The costs of an aging society will need to be borne by individuals, families, business, government and other institutions. However, it is clear that a well-functioning economy can be the tide that lifts all boats and provides the wherewithal to meet the needs of aged and non-aged Americans in the early 21st Century.

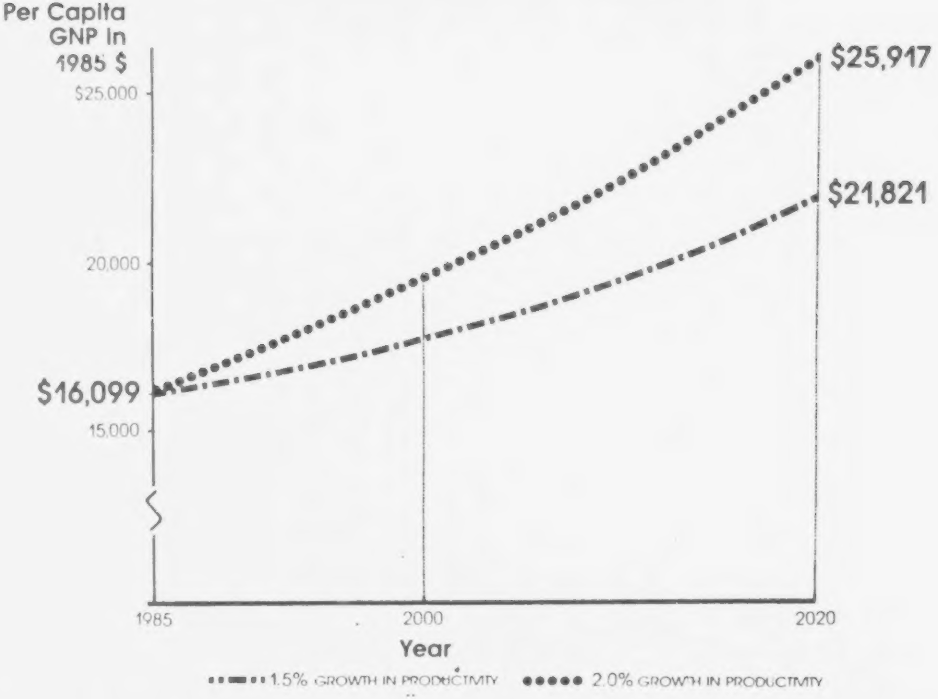
From 1947 to 1973 the American economy experienced a period of phenomenal growth. During that period middle-income families enjoyed an annual growth in real earnings of nearly 4 percent. For the five-year period between 1965 and 1969 median family income for non-aged households grew from $7,537 to $10,438 in real dollars. For aged households, median family income grew from $3,460 to $4,803, while for non-white families mean income grew from $4,827 to $7,255. Despite a slight recession in the early 1970s, incomes continued to grow until the mid 1970s.

Economic stagnation in the late 1970s and early 1980s slowed real income increases for all age groups. From 1973 to 1984 real income fell by a total of 6 percent, although the average number of jobs per family grew by 20 percent. Although median family income for non-aged households in 1984 was $29,292 this ostensible gain was in contrast to the real income positions of the 1970s, all of which were higher. From 1980 to 1984, income inequality became more pronounced with the share of the richest fifth of the population increasing from 41.6 percent to 42.9 percent, while the share of the poorest fifth declined from 5.1 to 4.7 percent. The "wealth gap" between blacks and whites recently reported by the Census Bureau is a further indication that economic stagnation has hit middle- and low-income families especially hard. Only Social Security COLAs, which went into effect in 1975, served to keep the real benefits of those already retired from declining.

While inflationary pressures have abated since 1980 and will remain low for the forseeable future, current economic growth continues to be lackluster. Despite the Administration's prediction of a 4 percent increase in GNP, the current growth rate is 2.4 percent. While some economists are predicting a drop even lower, perhaps as low as 1.5 percent, it is likely that a 2 percent rate of growth will be sustainable.

This 2 percent increase in GNP, in comparison with the growth rates of the post-World War II boom, is undramatic. It is, however, a realistic and historically valid growth objective and if sustained, would produce a doubling of GNP by the year 2020, with an increase of 61 percent per capita GNP. (See Figure 1) Modest growth of this kind will be sufficient to ensure the stability of Social Security. Even

INCREASE IN PER CAPITA GNP IN THE YEARS 2000 AND 2020



Sources: *Economic Report of the President*, February 1986, Table B-1. *Social Security Area Populations*, 1983, Actuarial Study No. 88, Tables 18d, e--Alternative II if the annual GNP grows at the rate of 1.5 percent with an increase of 36 percent per capita GNP by the year 2020, there will still be additional resources to meet the needs of our aging society in the first decades of the 21st Century.

While GNP is a good indicator of possible increases in our standard of living and gross resources available to society, these resources are not shared evenly. As noted above, there are wide racial disparities in income and wealth and growing income inequality especially for female-headed households. Not only can the creation of such an underclass be social dynamite but it bodes ill for current and future productivity and for the future retirement needs of low-income individuals.

Productivity is Key

Increased productivity is key to meeting the costs of an aging society. Productivity in an aging society needs to be redefined to encompass both full-time and part-time employment and volunteer work. Increasingly as women participate more in the workforce, the voluntary roles that they traditionally assumed will either fall by the wayside, to the detriment of us all, or to a new group such as retired persons. Public policies, such as tax deductions for voluntary and charitable work, can undergird these efforts.

Even more importantly, public policies can and must be devised that will reduce drags on economic growth and enhance workplace productivity. Reduction of the federal deficit, the promotion of increased savings for investment and of increased dollars for research and development, and restoration of our trade balance are all measures requiring immediate attention and action.

No less important are two longer range needs that have major implications for productivity in the next century. The first is the need for renewed investment in a skilled and educated workforce. Technology alone will not be the key to greater productivity; indeed, it may prove our undoing if tomorrow's workforce is incapable of working productively with that technology. New jobs of the next several decades will require some post-secondary education. Federal leadership can ensure that the educational levels of the future workforce meet those requirements.

A second approach to enhanced productivity is a recognition of the irrelevancy of age 65 as the cut-off point for most people's productive contributions. This perspective is an anachronism, as is the continued trend towards early retirement at age 62 or earlier. Our society can ill afford to lose the productive capacity and experience of able-bodied workers aged 60, 65 and older. Public policies need to provide stronger incentives to continue in the labor force and stronger disincentives to retire early. Vigorous defenses of age discrimination, required pension accruals after age 65, abolition of mandatory retirement, greater bonuses for delayed retirement, increased penalties for early retirement, and greater opportunities for part-time work combined with partial pensions would encourage those older persons who are capable of continuing to work to postpone their retirement decision voluntarily. All society would benefit from older workers' continued workplace contributions to productivity.

Greater productivity will permit us to pay for the costs of an aging society as demonstrated in Figure 1. Especially with longer life expectancy and increased frailty and dependency among those aged 80 and older, escalating health costs are the major economic threat to future generations. Sufficient individual resources in retirement--a mix of Social Security and Medicare/Supplemental Security Income, public assistance and Medicaid; employer-provided pensions and post-retirement health benefits; and individual and family savings--will be required to meet the costs of an aging America in the next century.

PENSION COVERAGE TO MEET 21ST CENTURY RETIREMENT NEEDS

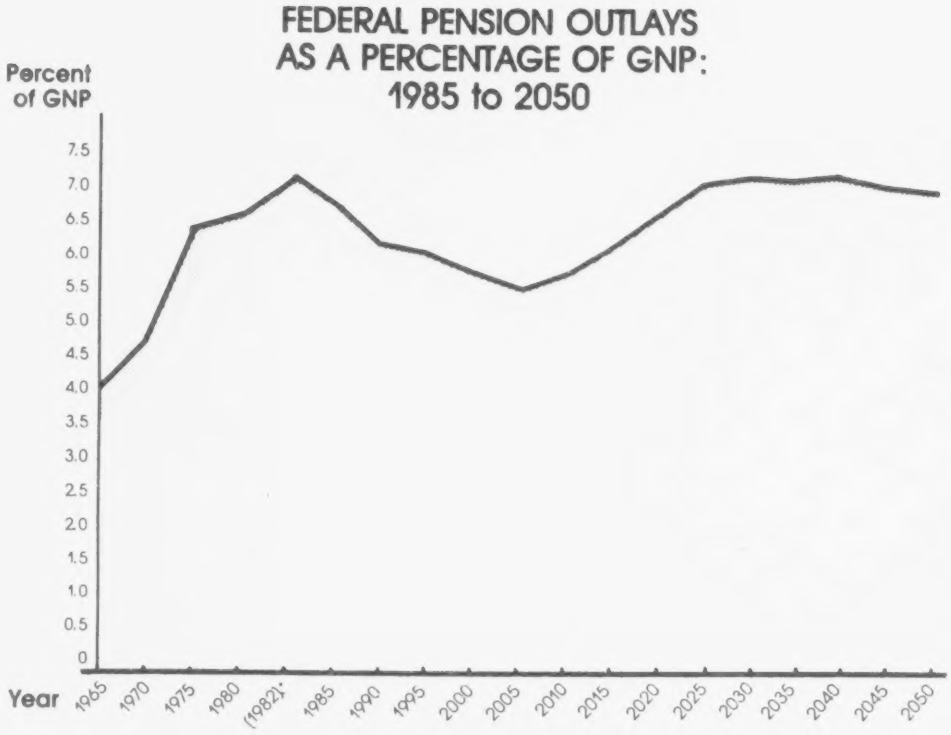
Economic growth has important implications for the extent and mix of retirement income sources for older Americans in the next century. While Social Security, employer-provided pensions, savings and asset income, and earnings will all continue to be vital components of retirement income for retirees in the years 2000 and 2020, Social Security and employer-provided pensions will provide the lion's share of income for retirees. Improvements in employer-provided pension coverage must occur to ensure that all older Americans share in anticipated economic growth.

Federal Pension Costs in the 21st Century

There is basically good news concerning federal pension costs, which include Social Security, in the next century. Figure 2 summarizes projections of the federal budget outlays that would be required to support existing pension programs under the middle range long-run economic assumptions generally used for the Social Security program. While these projections are obviously not definitive forecasts because their underlying assumptions will likely change, they provide, at the minimum, some basis for evaluating the impact of future demographic changes on long-term federal outlays for retirement income.

Federal pension outlays as a percentage of GNP will fluctuate

FEDERAL PENSION OUTLAYS AS A PERCENTAGE OF GNP: 1985 to 2050



Source: For years 1965–1982, Table 1 of John L. Palmer and Barbara B. Torrey, "Health Care Financing and Pension Programs," in Gregory B. Mills and John L. Palmer, *Federal Budget Policy in the 1980s*, The Urban Institute Press, Washington, D.C., 1984; for years 1985 and 1990, The Congressional Budget Office, *The Economic and Budget Outlook, Fiscal Years 1986–1990*, Government Printing Office, 1985; for years 1995–2050, *The Second Security Trustees Report*, April 1984 and Palmer and Torrey, backup to Table 1.

*1982 is included because it is the peak year for Social Security and, therefore, pension programs.

downwards and then edge up again over the next 55 years. This pattern for projected federal pension costs is dominated by the Social Security OASDI program which accounts for nearly three-quarters of the total. Because benefits are adjusted only for inflation (and not for GNP rises) and because the 1983 amendments provide for gradually phased benefit cuts, average Social Security benefits per recipient will grow more slowly than the economy. Other federal pension programs such as veterans' and Civil Service pensions and Supplementary Security Income are also projected to grow more slowly. Thus, concerns about federal retirement benefits "busting" future federal budgets are unfounded and unwarranted.

A closer examination of past and projected pension outlays bears out this contention. In 1965, federal pension outlays constituted 4.1 percent of GNP, with OASDI accounting for 2.5 percent of that total. In 1982, the peak year for Social Security, pension costs accounted for 7.1 percent of GNP. Turning to the future and particularly to the year 2000 and beyond, it is instructive to note that the percentage of GNP to be expended for federal pension programs will be consistently below the 1982 peak level until the year 2030. That GNP percentage level of 7.1 percent, the same as the 1982 peak year, will be sustained through the year 2040, and drop thereafter. The Social Security "crisis" still being predicted by a few Cassandras is clearly out of line with middle-range projections of both federal pension outlays and economic growth over the next several decades. Social Security is doing its job now and will continue to do so in the future.

As an aging society, our biggest concerns about pensions in the 21st Century will, therefore, revolve less around Social Security, which will be a more targeted program, and increasingly around the issues of retired individuals in the year 2000 who have not kept pace with the rest of today's Prime Life generation, aged 50-64. Even more importantly, we need to focus on the extent of pension coverage for the baby boomers in the year 2020 and beyond.

Employer-Provided Pensions in the 21st Century

In the 21st Century, employer-provided pensions will need to play an even more significant role in meeting retirement income needs than they do today. This conclusion is buttressed by recent trends in Social Security's relative share as a source of income, as well as the gradual changes in future Social Securiy benefits.

Social Security grew in importance as a source of income to elderly families between 1968 and 1974, but has remained relatively fixed since then, reflecting the stabilization of the real value of benefits under automatic cost of living adjustments. The proportion of income derived from Social Security benefits for families with a head aged 65 and older increased from 23 percent in 1968 to 31 percent in 1974, largely as a result of benefit legislation enacted in the late 1960s and early 1970s. Since 1974, however, the proportion of elderly family income from Social Security has stabilized at about 34 percent. For unrelated individuals 65 and older, a somewhat different pattern has emerged reflecting increases in the proportion of Social Security-derived income: constituting 34 percent of income in 1978 and rising to a high of 47 percent in 1980; thereafter, there has been a drop to about 44 percent of retirement income, on average.

At the same time, there has been a substantial decline in the role of earnings as a source of retirement income for both families and unrelated individuals 65 and older, offset by a growth in the relative shares of assets and pensions as a source of income. In 1962, 16 percent of married couples and 5 percent of unmarried men and women aged 65 and over received income from private plans. Twenty years later, those recipiency rates had more than doubled to 33 percent and 15 percent respectively.

Pension Coverage for Retirees in the Year 2000

These trends in increased pension coverage are expected to continue for the cohort born between 1920 and 1934, which now numbers 33 million persons, or 14 percent of the U.S. civilian population in the year 2000. It has been suggested that this Prime Life generation may well be one of the last generations to experience the post-World War II ideal of "the golden years of retirement" with many years of leisure marked by adequate income, health care and independence.

This characterization does not apply to everyone. Millions of older persons are being left behind in these advances, particularly women living alone and minorities. Men are more likely to take part in pension plans than women. The participation rate for men working for private or government employers is 65 percent, while the participation rate for women is 51 percent. This discrepancy in rates is partly attributable to women working on a part-time basis, who are thus not eligible for their employer's plan. Similarly, men of this prime generation have been included in a pension plan for a longer period than women. Twenty-five percent of women had been participants for 5 years or less, compared with 15 percent of men, and at the other end of the scale, 25 percent of men had been in their plans for 26 years or more, while only 9 percent of women had participated for that length of time. Women are also less likely to be vested than men of this same generation: 63 percent as opposed to 74 percent. This all translates into less pension income for women of this Prime Life generation who will, in the year 2000, range in age from 66 to 80.

Similar discrepancies in pension coverage obtain for minorities, largely because of intermittent labor force participation for both men and women, many of whom also lacked affirmative action protections such as access to apprenticeship programs early in their working careers and/or worked in non-covered employment such as housework and agriculture.

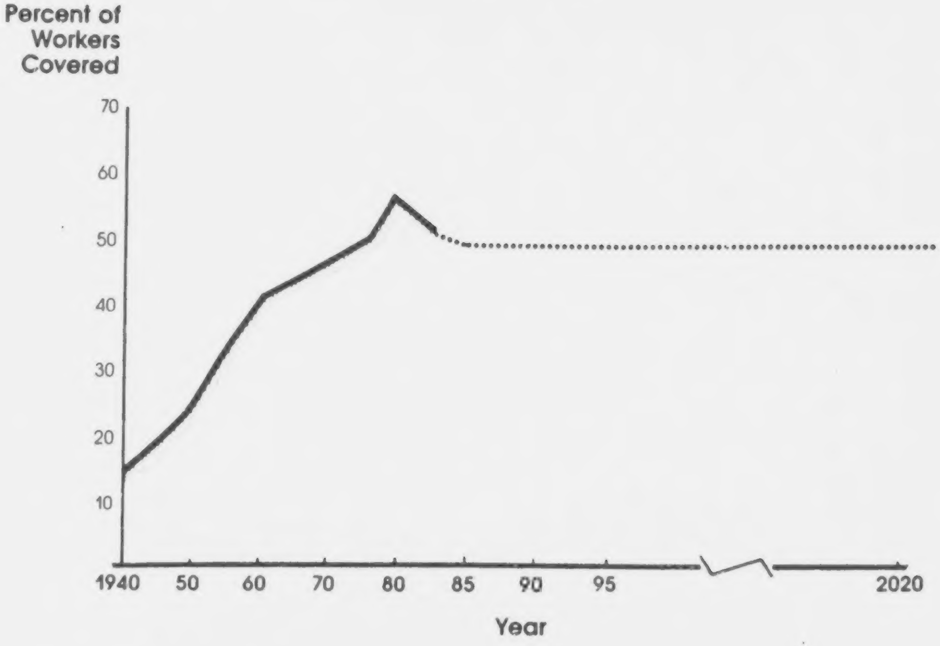
To ensure greater pension viability for minorities and older women who will retire or be retired in the year 2000, a number of issues must be addressed by Congress: the "60-cent dollar" pay scale for minorities and women; continued vigilance on affirmative action in the workplace; training for intermittently employed older workers to make their skills more marketable; and provisions for affordable dependent care for children, spouse and elderly parents to permit full-time employment. In particular, broader pension coverage needs to be provided, with attention to lower paid workers, earlier vesting, portability and pro-rated pension credits for part-time employment.

Pension Coverage for Retirees in the Year 2020

The prospects of pension coverage for members of the next cohort who will retire in 2020 are less secure. Although pension coverage grew over the past 40 years, since the late 1970s and early 1980s that trend has been reversed. As Figure 3 shows, less than 15 percent of the private non-agricultural workforce had pension coverage in 1940. During the following decades, coverage was extended rapidly to a labor force that grew from 71.5 million workers in 1960 to 117.2 million workers in 1985. Coverage peaked in 1979 at 55 percent and declined to 50 percent in 1983. Pension coverage for a workforce that is now growing more slowly will further decline to less than 1970 levels and then flatten out from 1995 on.

The shift from manufacturing to service industries accounts for

PENSION COVERAGE RATES FOR
PRIVATE, NONAGRICULTURAL WORKERS,
1940–2020



Source: President's Commission on Pension Policy, *Coming of Age: Toward a National Retirement Income Policy*, 1981, Table 1; E. S. Andrews, *The Changing Profile of Pensions in America*, EBRI, 1984, p. 184; ICF Summary of Assumptions for PRISM Simulation, 1986 much of this decline in coverage. Coverage rates for the service, trade and construction industries have been traditionally lower than those found in more unionized manufacturing, mining and transportation sectors. About 20 percent of workers employed by small business have pension coverage; yet small businesses are employers of nearly 50 percent of the U.S. workforce. Small businesses and the service sector are the greatest source of new jobs and will continue to be so over the next five to ten years.

This decline and flattening in pension coverage for the forseeable future jeopardizes the more central role that pensions must play in providing retirement income for the baby boomers in the year 2020 and for the next two decades thereafter. In planning for those retirees, we need to address those problems that are the cause of stagnant pension coverage. These problems include the lack of pension coverage by small business and the service sector where most new jobs are being created, low incomes that translate into low pensions, emerging trends in less than full-time employment and consequent lack of pension coverage, and high job mobility without pension portability.

With reduced incentives for pensions from lower marginal tax rates, the Congress will have to face up to a basic choice to address this problem. Either the private sector will be given the responsibility for providing pension coverage by requiring all employers to provide a minimum pension, or else we will be forced to reexamine the oft repeated policy the Social Security is just a foundation, not adequate by itself, for the achievement of our basic retirement income security goals.

HEALTH CARE CONCERNS FOR THE 21ST CENTURY

Even more challenging than future needs in retirement income are concerns about the provision of health care in an aging society. Solving these problems poses difficult public policy questions that must be answered before the 21st Century. But, by understanding the variety of demographic, social, and economic forces pushing and tugging on the health care system now, we can begin to prepare for our health care future. While many facets of the health care delivery system require reform, two issues loom largest as we consider the changes necessary to meet our future health care needs. Those issues are: (1) the persistent large differential between general inflation and inflation in the health sector of the economy; and, (2) the lack of a comprehensive and coordinated system of caring for chronically ill patients.

While there is much to be done to control health care costs, the "graying" of the population necessarily means that the nation will spend more on health care, particularly in addressing long-term care needs. In addition to increased demand for acute care services by an an aging population, there will be an increased demand for long-term chronic care services. While only 5 percent of the aged population is in nursing homes at any given time, fully 20 percent of the aged population will need nursing home care some time during their lives.

Moreover, the fastest growing segment of the population is the age cohort 85 and above; it will increase by 81 percent by the year 2000, and by a whopping 150 percent by 2020. For the age cohort 85 and above, almost one out of four are now in nursing homes. The large increase in the age 85 and above cohort of the population in the 21st century portends unprecedented new demands on our chronic care and social service programs.

It is imperative that the health sector become more efficient and that costs more reasonably track the general rate of inflation so that essential health services will be available to those who need them. Our success in meeting the health care challenges posed by a "graying" population will, to a large extent, depend upon our resolve to make the changes now that are necessary to meet the needs we know are looming in the year 2000 and beyond.

The Inflation Factor

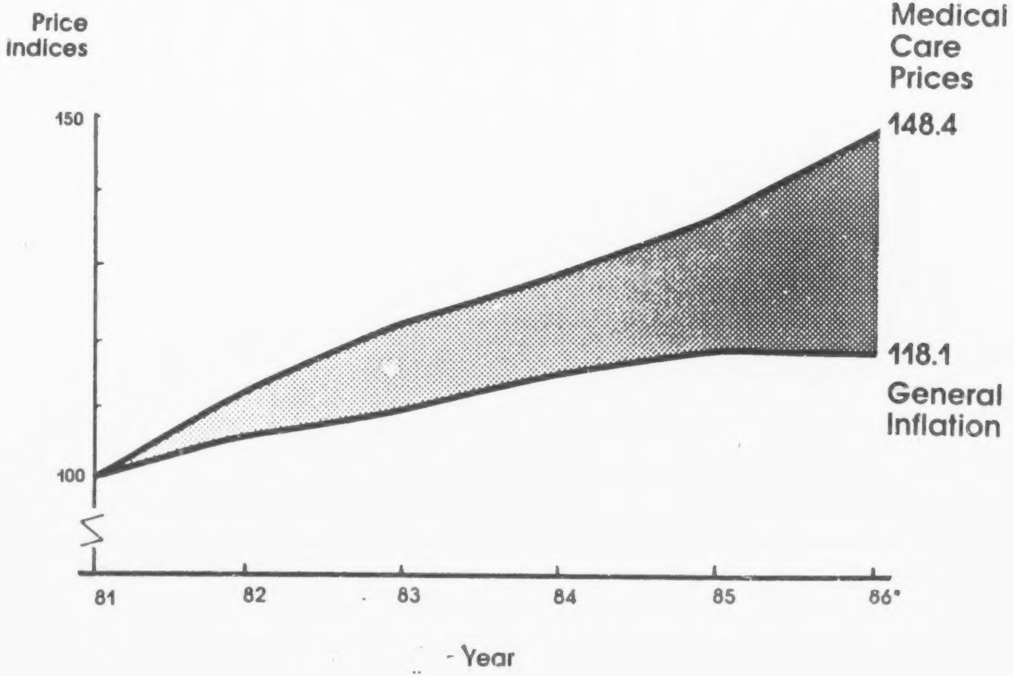
Health sector inflation is the most difficult and the most pernicious factor influencing our health care future. Between 1970-1982, for example, hospital inpatient expenses increased at an average annual rate of 15 percent, 9 percentage points of which reflected increased input prices, 2 percentage points increases in admissions, and 3 percentage points increases in net intensity of care. Thus, 60 percent of the average annual rate of increase in hospital expenses during this period was due to inflation. And although health sector inflation has come down from the high levels of the early 1980s, it continues to run at multiples of the general rate of inflation. Over time, the spread between general inflation and increases in medical care prices has continued to increase as shown in Figure 4.

Based on the first six months of 1986, the Bureau of Labor Statistics (BLS) projects that health care inflation will be more than ten times greater than the general rate of inflation this year (8.4 percent for medical inflation, compared to -.2 percent for general inflation). Thus, despite reductions in hospital admissions, reductions in the length of a hospital stay and industry claims of greater efficiency, medical inflation is running well beyond its traditional rate of 2-3 times the general rate of inflation to over ten times the rate of general inflation in 1986. This can hardly be characterized as cost containment! The country will face severe sacrifices in order to expand health care services as necessary in the 21st Century if the prices of those services continue to escalate at double or triple the general rate of inflation.

Runaway inflation in the health sector of the economy is not unusual, but it is disheartening after several years of reforms in the health care industry, including major changes in the Medicare and Medicaid programs. It is clear that the changes that have been made in payment systems, in patients' access to services, and in patient/provider relationships, have just danced around the margins of the problem.

FIGURE 4

MEDICAL CARE PRICES vs. GENERAL INFLATION: A WIDENING GAP



Source Bureau of Labor Statistics
*Based on activity of first six months of 1986.

Utilization of Health Care Services by Older Americans

Largely as a consequence of this rapid growth in health care prices, the burdens on individuals are large and growing. The recently released figures on health care spending for 1985 once again show health care rising as a share of the gross national product. Moreover, the burden of such spending falls heavily on the elderly. Although persons age 65 and above represent only 11 percent of the American population, in 1984 they accounted for approximately 33 percent of the nation's admittedly inflated health care expenditures, a proportion that reflects their greater needs and greater use of health care services. The average expenditure for personal health care services for persons age 65 and over was $3,140 in 1981, compared with $828 for those under age 65.

Much of the difference in expenditures reflects the elderly's greater use of hospital and nursing home care compared to the younger population. The average annual per capita hospital expenditures of the aged were $1,381 in 1981, compared with $392 for the under 65 population. The average nursing home expenditure per aged person was $732, compared to only $30 per non-aged person. There are also major differences in expenditures for physician ($589/$189 in 1981) and other health care services.

But, increases over time in health care costs cannot be linked to excessive utilization of services by the elderly. Indeed, for persons over age 65, hospital admissions have decreased and the average length of stay has dropped dramatically. Moreover, per capita physician visits by elderly persons have also declined since 1974.

The implementation of the Medicare Prospective Payment System (PPS) for hospitals in FY 1984 has resulted in dramatic savings to the Hospital Insurance Trust Fund. In addition, hospitals, on average, have enjoyed the largest ever increase in their profits since PPS. Clearly, both the government and the hospitals have been winners under PPS. The big losers have been Medicare beneficiaries. Medicare patients are paying more, a lot more, for less care.

Medicare's coverage of health care needs, while adequate in certain areas, leaves the beneficiary at considerable risk in others. Overall, Medicare pays for less than one-half of elderly persons' total health care bills. And though Medicare covers about three-fourths of older persons' hospital bills, beneficiaries today find themselves paying on average about 60 percent of their total physician's charges.

Moreover, this out-of-pocket liability for Medicare beneficiaries is growing. The following examples are illustrative:

* In 1984, older Americans spent more than $10 billion to meet Medicare's cost sharing requirements. This represents a 70 percent increase since 1981.

- In 1984, charges associated with non-assigned claims totalled $2.7 billion, representing a 64 percent increase in just 3 years.

- Beneficiaries experienced an 80 percent increase in their out-of-pocket liability for non-covered services and products between 1977 and 1981.

Beneficiaries now spend about 15 percent of their income on medical care, ironically the same portion of their income as they spent prior to the establishment of the Medicare program. Further, even in the absence of any additional increases in cost sharing or premium amounts, elderly out-of-pocket expenditures for medical care will likely increase to 20 percent of income by the year 2000.

Finally, increases in health care costs pose special problems for the elderly poor and near poor. A recent Health Care Financing Administration (HCFA) study found that out-of-pocket expenses expressed as a percent of income were six times greater for poor and near poor older persons than for their middle income counterparts. Moreover, fully one-fourth of the elderly poor and near poor are not protected by Medicaid. These persons, most of whom are over the age of 75 and frequent users of medical services, are least likely to be spared the devastating effects of increases in health care costs in general and in Medicare cost sharing requirements in particular.

Dealing With Inflation

The recent increases in health sector prices demonstrate the need to develop tougher strategies to reduce inflation in medical care. Health care consumers have to date suffered the brunt of the efforts to slow medical inflation. Future strategies to reduce health care costs must insist that providers take a greater responsibility in controlling medical inflation.

State programs that regulate all-payers of hospital services, for example, have been successful in controlling hospital costs. Many states interested in the all-payer concept have been discouraged from pursuing such a system by the Health Care Financing Administration's (HCFA) stringent regulation of the waivers necessary to permit Medicare participation in state all-payer systems. The goal of controlling hospital inflation is being significantly handicapped by HCFA's failure to allow Medicare to equitably participate with other hospital payers in state all-payer systems.

Control of health care spending is, to a large extent, a function of physician decisions. Thus, physician payment reform can play an important role in controlling health care spending. A national Medicare relative value scale (RVS) would improve Medicare physician payments by creating more predictable and rational payments than exists under the current fee for service system. Medicare's leadership in this area would go a long way towards improving physician payment systems for other payers too. A relative value scale for physician services is a necessary prerequisite for whatever delivery mechanism or payment system will be developed in the future. But rearranging payments to physicians will not go far enough in holding the line on inflation without a concurrent commitment to limiting price inflation in those services.

Finally, the task of achieving control over health care spending will require comprehensive research into medical practice variations and medical outcomes. For the past several years, researchers have been tracking variations in the use of medical care and have discovered systematic and persistent variations in the standardized use rates for common surgical procedures as well as other services. These variations seem largely to be the result of what has been called "the physician practice factor" which strongly influences not only the form of treatment undertaken, but the setting in which the treatment occurs. The cost implications of such variations are obvious.

There is a need for greater information about clinical outcomes and statistical norms based on average performance. The norms, once developed, need not be inflexible. But they can be useful as a starting point for physicians themselves to sort out the advantages and disadvantages of variations in practice. Such research offers the best opportunity to really understand the health care "product" and thereby the best opportunity to keep health sector prices within reasonable shouting distance of the general rate of inflation.

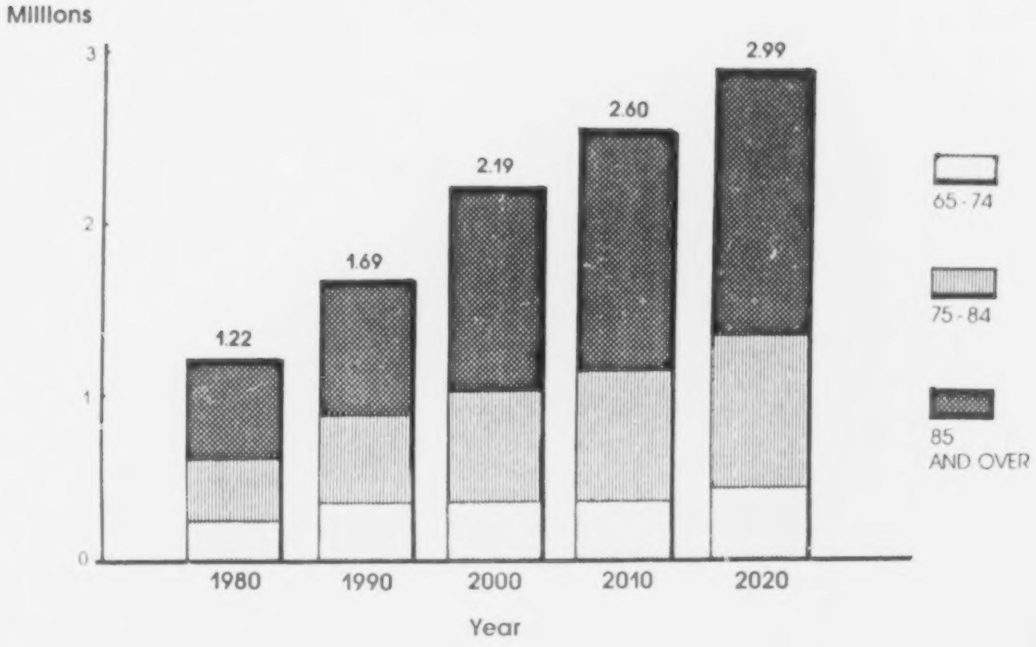
Care of the Chronically Ill

It is generally recognized that the greatest deficiency in the present health care system is the lack of comprehensive financing and delivery mechanisms for caring for those with chronic illness or disability. The projected growth in the functionally dependent population (most of whom will be elderly) over the next several decades is being fueled by the demographic changes. As shown in Figure 5 projections for the nursing home population jump from 1.2 million persons in 1980 to 2.2 million by the year 2000. That figure will further increase to 3 million by the year 2020. In addition, the greater prevalence of chronic disease as the dominant pattern of illness for older persons, and the reduction in the family's ability to care for elderly members because of divorce and the increased participation of women in the labor force is also influencing the need for a better system of providing long-term care (LTC). Moreover, the requirement that chronic care patients spend themselves and their spouses into poverty before government help is available presents a major threat to the economic security of adult children. These directions point to the need for a long-term care system that provides not just institutional care, but a complete continuum of services, including home and community-based services.

The existing long-term care system is a haphazard, cumbersome and too often ineffective array of benefits that do not meet the needs of an aging population. In effect, it remains a non-system. The current

FIGURE 5

NURSING HOME POPULATION PROJECTIONS
PERSONS 65 YEARS AND OLDER BY AGE GROUP
1980–2020



Source: Based on most recent revised estimates of the 1977 population base. U.S. Bureau of the Census, Series P-25, No. 917 1977 estimated, and Series P-25, No. 922, October, 1982, Middle Series Projections, and the National Nursing Home Survey (1977), National Center for Health Statistics.

system spends more to maintain persons in nursing homes than it does on the combined cost of home care under private insurance, Medicare and Medicaid, all social service programs, and all federally funded special housing programs for the elderly. Moreover, the programs intended to help older persons are fragmented and uncoordinated, with separate administration and varying criteria for establishing income eligibility and need for services.

If the long-term care system is to meet the chronic care needs looming in the 21st century, all this must change. Older persons are better served by help in maintaining their independence in their homes and communities as long as possible rather than by institutionalization. Several studies confirm that persons live longer supported by home and community-based care than do persons with identical impairments living in nursing homes.

To meet the needs of a growing, functionally dependent population requires the development of a LTC program that recognizes and accommodates the need for a variety of personal care services that are not strictly medical in nature. Services such as homemaker/chore, home health, and nutrition services are often more effective than institutional care in meeting tbe needs of chronic care patients.

Policymakers have been slow in linking medical and non-medical services to meet the needs of chronic care patients. In view of the future demand for services, however, public sector efforts to link these services must become a national priority. To achieve this link, it is necessary to alter the financial incentives for institutional care that currently exist. By providing institutional care as but one benefit in a case-managed system of LTC, in-home and community-based care becomes a more feasible and desirable alternative to institutionalization.

Current financing for long-term care comes primarily from two sources: private payments by individuals and families, and Medicaid. Commonly, chronic care patients enter a nursing home as private pay patients. The vast majority spend down their resources to impoverishment within eighteen months. Only after impoverishment does the patient become eligible for government help through the Federal/State medical welfare program, Medicaid. Although Medicare, Title XX of the Social Security Act, the Older Americans Act, and other state and local programs help finance some long-term care, their total contributions are now only a small share of the total. And while there are a few experimental private long-term care insurance policies available, they too are not a significant source of payment for LTC services. Restructuring the financing of LTC in this country is crucial because additional resources will need to be devoted by individuals and by governments to assure that the LTC needs of our aging society are met.

Policymakers in the United States seem intimidated by the service delivery and financing challenges posed by a growing, functionally dependent population. Yet, the service delivery and financing challenges facing the United States in the next century will be easier to manage than the long-term care problems facing Canada and Western Europe, both of which have more comprehensive chronic care systems than does this country.

The Canadian system of long-term care is instructive for the U.S. because of the similarities in demographic profiles, government structures (federal/provincial systems), culture, geography, fee for service medical care, and federal financing of LTC.

Most Canadian provinces provide universal long-term care benefits that include home health care, personal care, and social services for functionally impaired persons at relatively little - if any- out-of-pocket expenses to patients. Services are available in both community and institutional settings. Eligibility is based on functional impairment without regard to income. Contrary to American expectations, the availability of home and community based services has not led to excessive costs as the result of induced demand.

The failure thus far in the United States to develop a serious, comprehensive effort to link and coordinate the management of in-home services, community services, special living arrangements, nursing home care, and other forms of long-term care services within the community, has resulted in a limited program providing only acute and episodic care and institutionally based services when other services would have been more effective and less costly. The risk of not developing these linkages is that society will be unable to respond to needs it knows are looming in the future, or to control the costs of maintaining a viable long-term care program faced with increasing demand and dwindling resources.

CONCLUSION

The prospects for a mature American society need not be viewed with trepidation or foreboding. While we are faced with a future period of enormous change and challenge without precedent, we are looking at circumstances about which we have a choice. And though the problems are large, they are certainly manageable.

But we must begin now to prepare for this new society. Key to our preparations is strong economic growth. Further, we must expand pension coverage to ensure that older Americans will share in the benefits of higher growth. And we must control health sector inflation so that we can more easily meet the acute and long-term care needs of an aging population.

The American vision has always been deeply rooted in the future. The maturing of our population will vitalize that vision in new ways, providing new opportunities for growth not only in economics, but in human society as well. AARP looks forward to the challenges of that future.

Representative SCHEUER. Well, thank you very much. It's been a marvelous, wonderful panel.

A couple of questions, Mr. Rother. Do you have a couple of recommendations for us as to main game approaches to getting control of the costs in our health care system?

Mr. ROTHER. Well, I mentioned some I think that are the most important because they deal with the biggest pots of money.

I think an all-payers negotiated rate system for hospitals has been shown to be successful in the States that have tried it.

I think capitated type health systems such as HMO's where there's appropriate quality mechanisms are also shown to be successful many times.

The third area is physician payment reform which is a crying need at this point. We've already addressed the hospital sector with DRG's. We need some fine tuning there, but mostly to protect quality.

Representative SCHEUER. Would you translate DRG's into English for the record?

Mr. ROTHER. The diagnostic related group methodology Medicare now employs.

Representative SCHEUER. How about the change in focus of the health care system from tertiary hospital, high technology based, sickness care to neighborhood hospitals, community-based, preventive health care?

Mr. ROTHER. I think that's crucial.

Representative SCHEUER. As a way of not only improving people's health but of vastly reducing the cost of the total health care system.

Mr. ROTHER. Some of that is happening already because of changes in people's education and sophistication about good health habits and prevention. But some of it could certainly be encouraged by changes in the way we reimburse for health care, both to reimburse directly for some of these things and certainly to reduce the present incentives to help professionals to do the most invasion high tech procedures.

Representative SCHEUER. They just sock people into hospitals.

Mr. ROTHER. Exactly.

Representative SCHEUER. And I think we have to convince the American people that their health outputs are really not going to be affected more than at the margin by CAT scans, by open heart surgery, by renal dialysis, and all these other high tech applications, that we have met the enemy and he is us, and their health care is going to depend not on all of this high tech open heart surgery and like, but by their taking charge of their ingestion of alcohol, tobacco, drugs, improved diet, more exercise, regular exercise, and avoidance of violence. Isn't this where the main target of opportunity lies in improving the health of the American public?

Mr. ROTHER. I would add to your list, which is an excellent list, items such as continued efforts to clean up our air and water supply and to make the workplace a safe place.

Representative SCHEUER. I couldn't agree with you more.

We have heard today from Rudy Penner that even though we are moving the retirement age up gradually 2 years over the next decade or so and even though a lot of people say that they want to stay in the mainstream, they want to stay involved, they want to continue working, and with everything that the Wall Street Journal said yesterday about the frustration of elderly people who are cut off abruptly from their work lives and who feel that they have been cast on the human slag heap; nevertheless, despite all that, people are retiring earlier and they are not waiting until 65. He mentioned the large percentage of people who are retiring early at 62 and paying a financial penalty for that for every year of their remaining life.

How do you explain that?

Mr. ROTHER. I think there are several different things going on, Congressman. One is that consistently when people feel like they are economically secure, more people will opt for leisure.

A second point is that it may be misleading to think that just because a person receives a retirement check that they are in fact not doing anything productive. Many people we know are out volunteering in very important ways in community service. Many others are engaged in second career kinds of things. I've often thought if you looked at who holds the franchises for many of our small businesses, they're people who are in a second career and who have a retirement check to ensure themselves a basic level of economic security and are now free to go off and start their own business or do other things like that.

I don't think we really know in a very sophisticated way the extent to which people who are receiving retirement checks are nonetheless still participating in the economy in very important ways.

Representative SCHEUER. Do either of you want to comment?

Mr. MYERS. I would just call your attention to a report from the Institute of Medicine of the National Academy of Sciences on the productive roles in an older society and this might be an interesting source of some information on that particular issue.

Representative SCHEUER. Are you going to leave that for us?

Mr. MYERS. Unfortunately, it's the only one I have. I will make sure that you're sent one.

Representative SCHEUER. All right. Good.

Mr. MYERS. Let me also add to that. I think we tend to lose sight sometimes in talking about the total costs of an older society, and whether it be in pensions or health or whatever, that older people also pay taxes and that some of their income goes back into their own support. I think economists sometimes have neglected to take this into account.

This is increasingly so with an earnings test on social security payments for half of the social security.

The other issue that hasn't been raised today is the whole notion of credits for working over the age of 65 that materializes as you move up to the age of 70. There has been I think strong evidence that suggests that the amount of credit ought to be increased up to what would be actuarially appropriate and I know there were some recent hearings in this regard.

Representative SCHEUER. By what committee?

Mr. ROTHER. In the Senate it would be Labor and Human Resources Committee.

Mr. MYERS. Calling for raising the credits, they are currently at 3 percent, up to 8 percent or something along those lines. That might encourage additional people to stay in the labor force.

But even if we look at the total impact on the labor force, the proportion of older persons, even increasing through mandated items such as increased credits or even the question of raising the entitlement age, we're still talking about a very, very small portion of the labor force. I think the total impact on the labor force is not significant.

Representative SCHEUER. Now the baby boomers of the post-World War II years are now entering the labor force and they're working, raising families, paying taxes, and so forth. Is there any evidence that when they work their way through this snake's belly and emerge into the old group 30 years from now that they are going to be able to rely more on their savings than current retirees are? Will they be less dependent on social security? Do we have to be concerned less that we're not providing a social security structure that will enable them to meet all of their costs of living?

Mr. ROTHER. Congressman, if I could just try a quick response. One of the major areas of concern to us is the savings rate in this country has gone down in recent years, despite all the tax advantages to save.

And it appears that for the vast majority of the population, whether it's the baby boom or other age groups, savings is not going to be a very significant part of their retirement income picture.

That's why I think it's so important to look at the private pension area which has the capability of forced savings dedicated to retirement income.

Representative SCHEUER. If we're going to rely on the private pension system, we have to address the question of portability. That is a terribly important question and one that I may say that the late Senator Javits addressed for a major part of his senatorial career. We still haven't found the answers and it's a painful question for a person who's worked 10, 15, or 20 years but still has another 5 years to go and he's offered a much better job. Does he give up his pension rights because he can't take them along with him?

If we could come up with an answer to the question of pension portability, we would make a great leap forward in our ability to provide the mass of our people with pensions that really took a significant part of their postretirement expenses.

Well, I've kept you all for 3 hours. This has been an absolutely terrific hearing. I can't thank you enough for your patience, your tolerance, and for your very creative and thoughtful testimony. We're all grateful to you—I, present, and my colleagues unpresent. We'll try to get the word to them and give them some outlines of your testimony that they can pursue in the evenings or over the weekends or in their offices. Thank you very, very much.

The subcommittee stands adjourned.

[Whereupon, at 12:25 p.m., the subcommittee adjourned, subject to the call of the Chair.]

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